

CHILDHOOD EDUCATION

JUNE, 1935

CONTENTS

PAGE

INCLUSIVENESS AND CONTINUITY IN EDUCATIONAL PROGRESS: HOW ORDER AND INTEGRATION OF LEARNING RESULTS ARE EF- FECTED.	<i>William H. Kilpatrick</i>	387
THE PRIMARY SCHOOL OF TOMORROW	<i>John A. Hockett</i>	396
WHERE SHALL I LIVE?	<i>Garry Cleveland Myers</i>	400
SCIENCE AND POETRY	<i>Bertha Stevens</i>	403
MY SHADOW	<i>Geneva A. Logan</i>	405
ARITHMETIC MEANINGS	<i>Amy J. DeMay</i>	408
THE VALUE AND LIMITATIONS OF DRILL IN ARITHMETIC	<i>Lorena B. Stretch</i>	413
<hr/>		
NEWS FROM HEADQUARTERS	<i>Mary E. Leeper</i>	417
BOOK REVIEWS	<i>Alice Temple</i>	418
AMONG THE MAGAZINES	<i>Ella Ruth Boyce</i>	421
RESEARCH ABSTRACTS	<i>Elizabeth Moore Maxwell</i>	424
INDEX FOR VOLUME XI		426

Published Monthly, October to June, by the
ASSOCIATION FOR CHILDHOOD EDUCATION
1201 16th Street N.W., Washington, D.C.

DOROTHY E. WILLY, Editor
FRANCES MCCLELLAND, Associate Editor

Subscription price \$2.50. A special subscription price of \$2.00 is offered to members of the Association for Childhood Education, members of the National Association for Nursery Education and to undergraduate students. Foreign postage 50 cents. Single copies 30 cents.

Entered as second class matter at the post office at Washington, D.C. under the act of March 3, 1879. Additional entry at Menasha, Wisconsin. Copyright, 1935, Association for Childhood Education.



From *Sung Under the Silver Umbrella*

Courtesy of The Macmillan Company

And Ann who is eight reads poems to us,
From *Sung Under the Silver Umbrella*.

CHILDHOOD EDUCATION

For the Advancement of Nursery—Kindergarten—Primary Education

Vol. XI

JUNE, 1935

No. 9

Inclusiveness and Continuity in Educational Progress

WILLIAM H. KILPATRICK

Professor of Education
Teachers College, Columbia University
New York City

How Order and Integration of Learning Results are Effected

IS "PROGRESSIVE" education essentially haphazard or only seemingly so? Is there not real danger that with the increasing spread of the 'activity' program our children may grow up without the depth and exactness and order and system that we have hitherto cherished? One often hears such questions as these, and while we may smile at the virtues attributed to the old ways we can still understand the fears regarding the new. The "progressive" program does seem haphazard. And in very fact it does not on the face of things make that showing of order and system which we have been accustomed to see in the ordinary school program. Moreover this characteristic lack of the older order and system is seen not only in the day by day or month by month program through any one year, but is, if possible, even more apparent in the year by year program through the total school course.

While these fears of the new are easy to understand, we must, however, if comparisons are going to be made, admit that there are dangers in the old as well as in the new. We need to understand that the apparent

order and system of the traditional school program is both a snare and a delusion. Adult thinking, to be sure, can point to its obvious adult end-product system and order in the outlined program for the pupils, but this may prove to be the very reason why so many pupils and students, the products of the older system, now think so little and hold even that little so badly organized.

But the failures of the old do not establish excellencies for the new. There are real problems here involved. It is to the consideration of these problems, not to the debating of partisan claims, that this paper is directed. The aim is to find out what kind and degree of inclusiveness and continuity of study is needed—with what guidance to secure it—if the learner is to make the desirable fullness and orderly integration of his learning results.

It will help our search if we can see what constitutes normal and desirable child growth. We then go on to inquire which elements in this desired growth demand guidance, and which of these elements demands co-operative and consecutive guidance through-

out the years of the child's school life. Our especial concern here is with two correlative matters: the psychology whereby the learner may adequately effect long-term continuous growth of content fullness and the orderly integration of learning results; and the practical procedures whereby teachers may effect the cooperative and consecutive effort necessary for guiding such growth.

WHAT CONSTITUTES DESIRABLE CHILD GROWTH

The word growth has many meanings. Here it is used to include all those changes in the total child organism that come about through interaction with the environment, with special reference, however, in what follows to such of these changes as lie within the range of intelligent control. The term "desirable growth" perhaps now explains itself; it refers to all those changes that we desire and approve as we study their bearings on life, on the one hand to enrich the content of life, on the other to supply such knowledge, habits, and skills as bring control over the process. And here, as always with such words as indicate approval, there is implicit reference to some process of evaluation in which a conscious philosophy of life plays a significant part. The philosophy implicit in this paper will perhaps sufficiently explain itself as we proceed, but its central features may be stated as reliance on criticized experience as the final authority and an acceptance of democratic self-direction carried forward in the light of the common good as the means of practical management.

In order to state in simple terms what is meant by desirable child growth it seems necessary to name three background pre-suppositions in terms of which the growth is to be understood. First is the fact of physiological birth, growth, and death. The child starts as a mere animal, albeit more promising than the rest. Through inter-action with its environment it grows into a widening range of sensitivity, habit, thinking, skill, and knowledge. After a period of central control the mature grow old and die, while the young are ever coming on to take their places. Second, each child is born into a sur-

rounding cultural group that has its own characteristic features different from those of other groups and times. Normally the child by sharing in the surrounding group life grows into fuller and more adequate participation in the culture and affairs of the group. Third, our culture here in the United States in the year 1935 is, in comparison, highly complex, subject to rapid change, and in particular is disturbed by many social difficulties and problems.

With this as the background of understanding we are now ready to ask as to the desirable elements of growth. Since we are especially concerned with the psychology of long term guidance, our analysis need not be exhaustive as to the several items of growth, but only as to their several typical kinds, with the kind of guidance appropriately involved. This consideration will materially shorten our inquiry and task. What, then, are the most significant elements of desirable growth?

Emotional adjustment as the pre-conditioning factor of all else.—The one fundamental element in desirable growth that is pre-condition to all else is "emotional adjustment." Without this, practically all else comes to naught. Amid all other changes taking place the individual should by continual achieving prove able to maintain a satisfactory "emotional adjustment", a well-integrated personality. Since personal integration is not self-contained, but involves a satisfactory internal adjusting with the ever changing demands from the external situation, it requires no further words to show that the fact of integration is never completed, but is always in a moving process. It is, however, most true that a certain relative degree of stability of integration is both desirable and possible. A satisfactory sense of security depends on it.

As regards this element of adjustment, it is not necessary to argue that proper adult oversight with frequent active guidance is essential to the achieving of well integrated personalities in any family or school. Unless parents and teachers understand both the normal process through which children

achieve and maintain emotional adjustment and the special dangers incident thereto, we can have no sound hope either that good conditions of wholesome living will be provided or that beginning maladjustments will be caught in time. Mental hygiene has won its unquestioned way into a proper régime of teacher and parental education. No school is safe without adequate provision for guidance under this head.

Guidance: its function and its dangers.—It may be helpful in connection with personality adjustment to anticipate some of the further discussion on guidance. We can then carry along with us a better understanding of how child learning and adult guidance are mutually related. First of all, personality adjustment is the result of what the person himself, here the child, as such does. Many masterful adults, both male and female, do not like to admit their limitations here or in other learning situations where the same rule invariably holds. They mistakenly demand to keep all of the child learning-growing process in their hands. The limitation here asserted does not mean that we adults can do nothing, but only that our efforts are indirect. We must, to use the once popular but dangerous term, try to get at the child's "will", for it is what the person himself inwardly and at bottom wills that determines the personality effect. Guidance becomes then but a descriptive term to denote our efforts at the wise influencing of the child's own inward attitudes and choices. If guidance be too slight or unobservant or inconsistent, the probabilities of best child growth are lessened: appropriate fruitful stimulation becomes less likely and beginning wrong tendencies will more likely grow up unnoticed. Also if guidance becomes too strong, i.e., verges over much on autocratic control, again are the probabilities of best child growth lessened: The child is deprived of a proper practice in responsible self-direction; he may grow (as is now true of nearly all school children) too dependent on outside direction; or he may (as is now true of many vigorous youths) grow rebellious or stubborn. By definition, proper guidance is the strict correlative of proper child growth.

TWO MAIN CHARACTERISTICS OF GROWTH

We are now ready to state the more general characteristic elements of desirable child growth. For our purposes these seem to fall under two main heads, (a) *an ever growing range of healthy interests* and (b) *an ever growing ability and disposition to base action on study*. As regards the *ever growing range of healthy interests*, it would seem proper, negatively, to exclude in particular any excessive interest in self and its narrow welfare and, positively, to work for such specific interests as (i) identify individual welfare with group welfare, (ii) enhance the quality of life when it is lived (e.g., enjoy reading, get pleasure from the esthetic, see more in life about him, etc.) and (iii) create ideals along the whole road of life (and in this way by supplying effectual standards best take care of desirable details of many sorts). As we are throughout this paper concerned exclusively with building under guidance the analysis just given is simply to show the kind of things included under the term interests and not at all to make an adequate inventory of life's interests. One thing, however, must be said. As children grow older, some of them develop quite specific interests—music, for example, or literature, or science, or mathematics, and the like. We shall later discuss how some of these may be definite enough to justify what seems the study of subjects as such. This will form a seeming exception to the general position of this paper.

The second characteristic of desirable growth, namely the *ever growing ability to base action on study* will probably seem either so commonplace or so strange that we must study it more in detail. The position here taken is that this acting on study is *the one fundamental essential* in such important life processes as (i) maintaining a proper integration of personality, (ii) acting morally, (iii) deciding wisely and acting prudently in affairs, (iv) acting efficiently in carrying forward any enterprise. If to include four such diverse kinds of things under one formula seems an extravagant claim, it is at least consciously and intentionally made. Before

we proceed to examine this seemingly extravagant position it is necessary to get clearly before us three underlying conceptions: (1) that life itself consists of the interactive responses of the organism with its environment; (2) that the organism as it thus interacts with its environment responds in some true sense as a unity, as an organic whole; and (3) that learning consists of the changes introduced into the organism as it interacts, especially with the novel factors in the environment. Fortunately these three related ideas are already rather widely known and accepted, so that a few words of illustration will perhaps suffice for them.

BEHAVIOR AND ITS BIOLOGICAL ANALYSIS

We may for present purposes take as the unit element of life and learning, a person facing a situation. If there is something in the environment that so seizes upon the person as to stir him to some sort of action, then we say he is facing that situation. As the person thus being stirred faces this situation, he feels on the inside what we call want, wish, preference, interest, etc. Simultaneously the stirring works itself out in movements which tend to secure for him what he wants or prefers: he makes either seeking movements, or he makes avoiding movements. These movements (in the typical case) continue, and if need be vary, until success is attained (i.e., the want is met) or failure is established. In the stirring and the consequent movements the various resources and aspects of the person's organism are called into play: he feels, he wishes, he thinks, he tries, he puts forth physical movements, certain glands of internal secretion act, etc. It seems best to think of this feeling, thinking, moving, etc., all as but differentiated aspects of the one organic response: they can be distinguished from each other in and for thought, but they cannot be found separated in fact. Now when the situation is sufficiently novel, the organism may find that its existing stock of responses do not suffice to deal satisfactorily with the situation. If so, it may contrive (create) what is to it a new response in which thinking, feeling, physical

moving, etc., appear in one novel pattern. If this new response, after trial and/or consideration, is accepted for future use, then a miracle happens (or we would so judge it if it were not an everyday occurrence): the new response becomes incorporated into the organism on substantially equal terms along with the other prior existing responses of the organism. These two facts of (a) contriving (or creating) the new response and (b) incorporating it into the organism, we denote by the one word *learn* and say that the organism has *learned* this new way of behaving. Since the organism responds as a whole, it learns as a whole: thinking, feeling, moving, glandular action, etc., are all inseparably blended in the new acquisition. Each act and instance of learning necessarily includes them all in greater or less degree.

We are now ready to see how basing action on study is the one road to personality adjustment, moral conduct, prudential choice and action, and efficient execution.

Personality adjustment and basing action on study.—The two principal types of maladjustment are (i) such a giving way to moods of anger or guilt or discouragement or sense of inferiority and the like that these become chronic and so thereafter interfere with intelligently directed conduct, and (ii) such a refusal to see and take account of the pertinent factors in one's situations that this tendency to "refuse to face reality" becomes, in one form or another, chronic and so likewise thereafter interferes with intelligently directed conduct. Popular practice names both of these as instances of "emotional maladjustment" but they are emotional only by selective emphasis (and in my judgment by bad psychology). As we saw above, thinking, feeling, physical movement, etc., all always go along together. In fact the difficulty in both these cases is not the absence of thinking but a poor quality or type of thinking. The discouraged pupil thinks of the mortification attending failure, dwells on it and nurses it, instead of asking himself, "Now that this has happened, what can I best do about it?" The customary school practices of marks and promotions with emphasis on success and failure bring malad-

justment to many pupils. If he will but study out the most feasible course of action and act that out in actual conduct, the mood will not gain abiding control over him, instead the tendency to intelligent study will come to prevail. Control by mood spells maladjustment; control by intelligent study means healthy-mindedness.

The words "if he will but study out", etc., must not be taken to mean that the matter is simply one of some mysterious or miraculous "free will". Not at all. In any particular case, whether one will study depends on the habits one has built as these interact with the situation. We who are guiding get in our work on the situation side of this interaction, possibly to clear up misconceptions, possibly to remove disturbing factors, in any event to help secure successful efforts. We may then, if we are wise and fortunate, help determine the situation at hand so that even the unfortunate's weakened habits of study and acting will on that occasion suffice to bring success to his efforts. If so, the weak habits may this time grow stronger and so later again and again grow stronger until reasonable strength has been built back. In each actual instance, the child, as he then is, acts; but we perhaps can help to bring success rather than failure by our part in working on the situation. Basing action intelligently on study is the recipe alike for us who guide and for the one we would help. It does in fact constitute the one positive road to personality adjustment.

Moral conduct and basing action on study.—The same discussion holds of moral conduct. The heart of behaving morally is to base action appropriately on thought. Situations do not come already labeled as right or wrong. Man once fancied it ought to be so, and Moses and other lawgivers tried to make lists of the things that are right and wrong. But always some new and better dispensation has renounced the earlier effort and its error. No, we have to think about what to do. True enough, many situations so nearly repeat themselves that we need only recognize them and act upon the results of past thinking. And many parents, even today, try to bring up their children as if this and

their commands would suffice. But no such will suffice. We live in a world that develops in novel fashion. When we face a new situation, we have to think in order to know what is right to do. We recognize some familiar elements in it but the new case demands novel consideration. In fact in every case of real doubt, both the alternatives are offering themselves as right. Only after we have deliberated on the alternative lines of consequences can we decide on one in preference to the other—and so label one as right and the other wrong. We may be mistaken; we often are. But we have to do the best we can. We must think as broadly as we can and as unselfishly and conscientiously as we can. If opportunity permits, we should talk it over with others. What we do thus conscientiously conclude, fixes "conscience" for us. It is in this sense that we can and should "follow conscience". But clearly the heart of it all is to base action on thinking and not on mere whim or impulse or past habits.

Prudential and efficient action and basing conduct on study.—The discussion as to both prudence and efficiency is so nearly the same as the preceding that we need not repeat the argument. Old situations may call for little or nothing more than recognition, but new situations demand that we think them through before we can act. In these matters also we may be mistaken and we often are; but again we must do the best we can. Where children have to act, we their elders have a double duty: the one to help them learn ever better how to judge against the day when they must and will judge for themselves; the other to protect them meanwhile from injury where we know better than they. And often these two being contrary to each other do put us in sore doubt as to what best to do. If we take too much of the deciding into our hands, then our children learn—as we earlier discussed—not the power and disposition to judge, but dependence on us or perhaps rebelliousness. Either is bad. Our youth must learn ever better how to judge and to act accordingly, and they can do so only by practice in which acceptance of responsibility for results is the main factor to teach them. But the very young, and per-

haps some older ones, would at times damage themselves, not knowing the risk they run. In such cases we, their guardians, may have to choose between letting them learn and letting them hurt themselves. If the hurt be not too great, we may let them try it. The resulting pain often teaches better than could anything else. If, however, the threatened damage be too great, we have to give up what they might learn in order to protect them from damage. But we must consider carefully. Either decision is a choice of evils. We, as they, must learn to base our action on the best thought we can give. It requires no further words to point out that we can by thoughtful guidance help these under our care to judge before they act. But if they are to learn, it is they who must judge, they who must think, they who must decide. So we help them as best we can to think and decide in the light of ever deeper insight and wider vision. In the whole round of life, then, in personality building, in moral conduct, in efficiency in prudential affairs, wherever we take it, the thing needed is to learn to base action on ever better study and thought.

HOW THINKING IS LEARNED

The stress herein placed on thinking calls perhaps for some attention to how one learns to think better. Two things go together here. On the one hand is the individual child and his experience and growth, on the other is the cultural group into which the child is born, with its guiding influence on him and his conduct and on his consequent learning. So far as his thinking goes, we may say that the child starts at birth "from scratch", and thinks only as he accumulates and organizes meanings. The learning of meanings comes from his experience in the life that goes on about him. In particular, he has to understand others and what they are doing in order to adjust his life accordingly. He learns to make those distinctions and to accept those meanings on which the situation at hand turns. After a relatively slow start words come in to help make the process go forward much faster and more precisely. By means of words and the common instrumentalities of life the child comes increas-

ingly to share in the common stock of meanings, ideas, attitudes, interests, skills, habits, customs, and moral and logical distinctions of his group. The most of what we call individual or personal intelligence has been thus learned from the group store. If the parents have clear ideas and make nice distinctions, the children will likely learn so to think. In particular, if parents can and do generalize in their own thinking, they will naturally help their children likewise to generalize. Each new concrete situation as it comes up can then be discussed so that the child not only gets the new element in it but sees this in its wider setting and relationships. We cannot too much stress the varied elements of the process here sketched: (i) getting new individual meanings from the situations where something turns on them, ever more of such meanings and ever better validated, (ii) discriminating meanings ever more nicely, (iii) generalizing and enlarging specific meanings and connecting them together ever more broadly, (iv) putting all of these ever more precisely to work in the actual situations of life, deliberating ever more carefully over what is to be done, reasoning ever more precisely in connection with doing. It is in these varied but interrelated processes that one learns better how to think.

Several things should be noted in connection with the foregoing lest we be led astray. First of all, it is in the actual situations of life that learning best goes on. Books will be used, other sources of information will be utilized, but it is the final practice of using these in actual experience that must both test and fix. Secondly, what is learned is normally put to use shortly thereafter because through it one is now sensitive to new factors, sees still other meanings, can marshal new resources, etc. In this sense life, at least in the early years, develops with continually increasing richness, reconstructing itself continuously on the new meanings thus got and used. The same thing is true of later years, but less easily observed because the rate often slows down, especially for the mature that are disadvantageously placed. Thirdly, in order that what is thus learned

may be many-sided, inclusive of the various possibilities of life, the range of experiences met must be sufficiently broad. One's surroundings may be so poor in variety and opportunity that what is learned is narrow, meager, one-sided, rather than broad, varied rich of content and distinction. Fourth, many desirable aspects of life—conceptions, insights, systematic views—require years and a favorable succession of experiences to build; and, for the many, will be built then only if there are effectual contacts with others who, further along in the process, share in the building experiences. Especially needed here is contact with cultural groups already possessed in considerable measure of the desirable conceptions, insights, and systematic views. This fourth need is, to be sure, nothing more than a more advanced stage of growing up in a cultural group already previously discussed. (p. 388). Psychologically, the process is precisely the same as that of the infant growing up in the family, only in the higher reaches the culture must itself be in process of creative reconstruction if the best learning results are to be achieved.

The whole discussion of our original problem is now before us. We need only to call attention to a commonly mistaken idea, and draw the conclusion. And what is this commonly mistaken idea?

THE FALLACY OF LEARNING BY THE LOGICAL ORDER

Many people seem to think that the order and arrangement in which ideas are held for use must fix the order and arrangement in which they are learned. Common as is this idea, it has so far as appears, no foundation in fact. The time was when number facts and relationships were learned in tables, presumably because this seemed the most logical way of arranging them after they were known. But now we think this is not the best order of learning. Similarly, some writers on history teaching seem to think that history must be studied in extended chronological sequences, if the facts of history are to be finally held in chronological order. It seems safe, however, to assert that

this is wholly fallacious. No one who knows much of history ever learned it all in one chronological sequence. Instead, a common way, at least among the better educated of the past, has been to learn, in one grand scramble, the ordinary day by day occurrences of childhood, some of mother's childhood experiences, some biblical history, some United States history, some Roman history, some Greek history, some particular periods in history, etc. Somewhere along the line, possibly with the Greek and Roman history, a skeleton of western history was hazily sketched. This was then held in process of correction and filling in as each new item or period was studied, with no end to the process as long as new items were got. Usually Chinese history, for example, never got into the picture. For orderly learning in this field two things seem important: the one, the seeing of the significant causal connections between or among related events as these are studied; the other, the seeing the whole in that seamless web we call history, of which the chronological order is simply a longitudinal cross section. These two processes have to go on together, only we must be content toward the beginning with only small patches of the seamless web, different foci of organization, which will later be joined together.

A like discussion holds as regards mathematics and the sciences. In mathematics the logical order is usually counted to be that of proof and most books on mathematics are so constructed. But here again the order of learning is never the order of proof, as any one can testify who has studied the subject far enough to get to the theory of functions. We blithely assume in ordinary algebra matters that have later to be re-examined far more thoroughly. Any one who really knows is ready to admit that our beginning algebra proofs were very inadequate. And in any particular instance, as the solving of an original in geometry, the order of study and learning is as different from the final order of demonstration and proof as a lost person's wanderings on a mountain-side are different from his direct path after he has learned the region.

PRINCIPLES OF GUIDANCE

This last fact should give us both help and warning in guiding students. We get positive help as follows: Where we count that the student will later probably be called upon to use his own intelligence, as in seeing the number relations and problems in ordinary practical situations, there we must expect him to do a good deal of mountain-side exploring on his own. We may at times go with him and from time to time assist him, but he will know the region for his own later use only as he accepts responsibility for thinking through his own experiences. And he will wander intelligently only as he is at each moment pursuing some problem or other quest. He must then wander, and he must think his meanderings to some final order, or perhaps better a congeries of interrelated orders. On the other hand, however, the ordinary student in engineering, for instance, need not learn how to derive his tables of logarithms and trigonometric functions. He need only be intelligent in their subsequent use.

The warning here is against short-circuiting a needed wandering. If there is a region in which a student is himself to be intelligent for later fruitful thinking, he must (as we have just discussed) wander about over it in the pursuit of problems that have meaning for him so that he himself knows the country. If this has been well done, he will have been ordering the congeries of connections above suggested, and he can then, when the need arises, map out any desired course through any part of the region. But if we, to save the student's time, furnish him with the final orderly statement of our expert thinking so that he simply "learns" this or simply "learns and understands" it, we shall very likely prevent him from building an adequate knowledge of the region or matter at hand. He must explore for himself and himself accept responsibility for organizing the results.

Is there then nothing that we can do to help? Are we not asking that the child himself learn unaided all that the race has taken these millions of years to acquire? The answers are that we can help and we are not

asking the child to throw away the results of the race experience. As with the logarithms and sines and tangents we did not ask the young engineer to calculate the tables or even to know how they were calculated. We only asked that he be able to use them intelligently. This principle intelligently applied saves him from rediscovering most of the race achievement. But if he is going to be an intelligent engineer, he will face a variety of experiences in which he is thrown relatively "on his own". Otherwise he is a "rule of thumb" man, capable only of repeating what he has been told. We who know more about engineering can help him by advising on the selection of projects to work out so that he does not waste time by attempting first those beyond his depth, and also so that the succession of projects does carry him pretty well over the field he must explore. But if, as many wrongly do, we map out say sixteen "experiments" in chemistry and so suggest the steps that the student is not really called upon to exercise responsible thought, then we must not be surprised if we simply make docile copy-followers (or perhaps indignant rebels). In neither case does the learner come out with an effectual organization of the region he has professedly studied. To organize means a selective arrangement, a sorting of many meanings according to inherently felt connections, so that when we need them we shall have them available for uses. The user must make his own organization, his many varied organizations, out of his own experiences and for his own use. We can help guide his experiences so that they are manageable and fruitful and so that they present sufficient variety. We can less often help with the actual organizations made, for these are many, not one; but we can help in such details of organization as working out cause and effect relationships with a wider understanding of the principles involved. These constitute the chief basis of useful organization. So more generally, we can help to many wider meaning connections by helping with the intelligent discussion of significant principles. These are perhaps the ways in which we can best help by guiding.

SUMMARY AND CONCLUSIONS

In what follows it is assumed that the teaching will be by activities, not by subjects, not only in the elementary school as is becoming common, but ultimately, be it hoped, also in the secondary school. In addition to activities, permission should increasingly be given say from fifth grade on—to those who can justify it—to follow up specialized interests, often in music and literature, frequently in science or mathematics or story writing. With the oldest pupils some of these specialized interests might approximate ordinary subjects. We may then conclude as follows:

1. Definite school effort will be necessary if pupils are to secure adequate range and inclusiveness of study and learning on the one hand, and adequate depth and organization of learning results on the other.

2. Such school efforts should not follow the hitherto usual method of having pupils acquire subject-matter set out for them in the usual school subjects nor in any other logically organized formulations. The order and arrangement of actual learning are almost of necessity different from the order of holding learning results in the mind for use. To use the latter order for study purposes is almost sure to hinder learning and helps little if at all in organizing for use.

3. The school's effort should show itself not only in what the teachers do separately, but even more in consciously formed cooperative efforts, cooperative efforts among all who deal with the child both during any one year and throughout the successive years.

4. Each school, and each teacher, should all the while be building and using as inclusive and satisfactory a philosophy of education as possible.

Correlative with such a growing philosophy each teacher and each school should build into their very souls a growing "map" or scheme of values, interests, meanings, conceptions, habits, skills, attitudes, etc.—and parallel with these the general regions of effort and inquiry through which the values may be realized.

Every teacher working with any child or group would use these values as sources of sensitivities to what is emerging in any activity or may be made to emerge. The teacher would then help steer the activity along lines that promised to secure the best possible value results, all things considered. In particular for the present discussion, when a long-term conception or interest

is actually or potentially involved, the teacher will so deal with it in terms of what is going on that the pupil or pupils may grow as best possible in respect to that conception or interest, due comparative regard being had to other values involved.

5. Care should be taken as any sufficiently important item first appears in concrete setting so to consider it that the pupil will get its underlying causal connections, shall see it in its wider possible connections, and if possible understand it as an instance of a significant inclusive principle. So to generalize the particular is perhaps the greatest single service we can render by way of helping our pupils on the road to better thinking.

6. Such a "map" or scheme of values as that above suggested and its use, along with the underlying philosophy, should be matters of continual discussion by the staff. What new conceptions should we add to our list? What changes in our present conceptions so as to take better account of new developments? Is our list of skills adequate? What degree of growth should we normally expect of nine-year-olds in respect to our values? Are we properly following year after year the long-term interests and conceptions? Do we work well enough together in building an unselfish regard for the public welfare? How could we do better? Are we having our pupils dig down deep enough in their thinking? Or are they being satisfied with superficiality? Do our twelve-year-olds really understand our "economic interdependence" or are they just using words?

7. Finally, it is intelligently directed acting on thinking that alone can effect in our pupils the desired range and depth and organization of learning results. If our pupils meet a sufficient variety of life's situations, themselves accepting responsibility for (i) thinking ever better before they act, (ii) of acting on the best insight they can get, and (iii) of looking back on the experience to profit as best possible from it—if these things be done honestly and thoughtfully under our intelligent care during the successive years of school, then the other things will be added unto them. Range and depth and organization will follow, along with other character results.

But none of these things can reasonably be expected unless we the teachers are intelligently concerned at each stage to help forward in the highest attainable degree the process of responsible thinking and acting. We must work cooperatively during each year and through the succeeding years. This is the price we pay, but if we really pay it, the results are worth the cost.



OUR TASK as educators is to begin with life, to nurse it, to help it to grow, to help it enrich itself, always so that more of life may result in the person himself and in all whom he touches. There is no richness but life itself.

William H. Kilpatrick

The Primary School of Tomorrow

JOHN A. HOCKETT

Lecturer in Education
University of California
Berkeley, California

HINDSIGHT is more common than foresight. Because of this, perhaps, teacher-training institutions have long insisted that prospective teachers know something of the educational ideas and practices of colonial days, of Pestalozzi, of Comenius, not to mention the ancient Greeks and Hebrews. It would, of course, be absurd

that they will eventually become the rule. Second, we can project into the future, with dotted lines, the trends and developments that analysis of present conditions reveals. Third, we may consult our own wishes, ideals and dreams. These latter, if sufficiently vivid and compelling, may modify and even reverse the direction of well-established



First-hand experience in group living with many materials to stimulate activity.

to suggest that young people should undertake the responsibilities of teaching while entirely ignorant of the history of education. Is it not equally absurd that many of us continue to teach year after year without ever pausing to formulate the educational ideals we hold for the future? Should not a profession devoted to the development of future citizens look forward at least as often as it looks backward? To know where we are going is actually more important than to know where we have come from! In particular it is necessary to look beyond the ends of our pedagogical noses at a time when those noses are so much on the grindstone as they are in these depression years.

We have at least three clues to the future, of more or less validity. First, we can synthesize the best current practices and hope

trends. All three of these sources have been drawn upon in the prophetic sketch here attempted.

Come with me, then, to visit a primary school of tomorrow, or shall we say, the day after tomorrow?

We are astonished as we open the door into a large, light, colorful room with its work-shop alcove, cupboards and tables in abundance, growing plants and flowers, aquarium, pet cages, easels, blocks and building materials. There is much evidence that the children have had a prominent part in making their room attractive and useful. The flexibility of the materials in actual use is equally impressive. We start to withdraw, thinking we have by mistake entered the kindergarten. Our guide assures us that the

kindergarten and first grade rooms are all but identical. We discover later that the second and third grades have equally spacious, attractive and well-equipped rooms.

Our second impression is that only half the class is present. Again we are assured that primary classes of more than twenty-five children are not permitted. We are speechless, but our discerning interpreter anticipates our questions. "Through rational planning of our economic system," he explains, "abundance had been assured for all. Adequate support for schools has ceased to be a problem, or a burden. Parents have been educated to see that their children need as favorable conditions at school as at home. School administrators, too, have at last recognized that primary classes should be the smallest of all, although no classes in the entire school system number more than thirty."

Regaining our equilibrium, we turn to watch the children and teacher. We are impressed with the zeal and enthusiasm displayed by all. The children seem to work with concentrated devotion, yet with great joy. The teacher works first with one group, then with another, contributing encouragement or help as needed. As we remain through the morning, many things impress us. The informality of the whole program is delightful; there is no sense of strain or conflict, but rather the calm, although sometimes noisy, hum of purposeful occupation, such as we might find in a well-ordered home. There is much more doing and less sitting than in the schools we have known. There is more free play, indoors and out. The relationships between pupils and between teacher and pupils are normal and natural, as if all were co-workers in a common undertaking. There seems to be time to observe the courtesies of life, to enjoy its beauties, and to consider any worthwhile questions or suggestions which arise. . . . We stay on through the day, and return the next day, and the next, before we attempt to analyze our reactions.

The wealth and variety of first-hand experiences is an outstanding impression. We note a vividness, a quality, an integrity of

experience that comes from free and vital contact with the realities of life. Within the classroom there are many enriching contacts with things; with materials to be manipulated and shaped; with pets and plants that demand unfailing, sympathetic care; with blocks, paints, clay, wood and cloth that can be shaped into satisfying products. First-hand experiences in group living are no less real and educative. There is the give and take of joint participation in common enterprises; the conflict of opinion and consequent learning of tolerance and consideration in the selection and planning of projects to be carried through; the shared joy and stimulus resulting from the successful attainment of common goals. There is effective encouragement from the class for self-reliance and persistence in the fulfillment of responsibilities, once they have been accepted by the individual or small group. There is growth in the understanding of problems and methods of social control as children collectively work out, formulate, and abide by the standards or codes of conduct which they find necessary for effective achievement. In short, the attitudes and habits of democratic citizenship are slowly but surely built through constant practice in the actual experiences of democratic living.

We cannot avoid being somewhat concerned for the skills and we frankly admit it to our guide. "There is much to be said in justification of our informality," comes the reply. "In the first place, children do not graduate at the end of the first grade, or the second, or even the third. Practically all children remain through the twelfth grade, a majority through the fourteenth. This gives us the opportunity and the obligation to plan a program in accordance with the principles of child growth. We do not need to crowd into the first three or four years content deemed essential but which is unsuitable for young children just because we fear they will miss it if we wait until they are ready for it. For the first time in history we can plan a consecutive, balanced twelve-year program with assurance that if we include at each age level those experiences that

are most challenging and enriching we are thereby best preparing our children for the experiences of the succeeding years of childhood and adult life.

"In the second place, haste makes waste. Those formal things which we labor so mightily to teach before children are ready for them, come with a tenth the effort and with truly educative results if we wait until the correct psychological moment. It is incomprehensible why educators were for so long concerned only with the problem of how early they could teach the formal skills, rather than in trying to determine the best time for their acquisition. The price of premature formalism is too great! Not only do we dampen the enthusiasm and dull the curiosity of boys and girls for those things which are legitimately most vital to them, but we also encourage unfavorable attitudes toward, and partial understanding of, the things we seek to substitute. Perhaps the most unfortunate result is the false conception we give children of the meaning of education. For generations the products of our schools have thought that to be educated meant to know, or to have known and forgotten, a mass of relatively useless information and to possess a few formal skills which were in many cases seldom used."

"But," we interpose, "your treatment of reading seems quite reckless. Surely reading is still important." "It is, indeed, one of the most important things the individual ever learns," our interpreter agrees. "Hence the great concern we have that it be learned at the proper time and under the most happy and favorable circumstances. We dare not run the risk of creating distaste by imposing it upon children before they have reached that maturity in first-hand experience and command of language which makes reading the eagerly appreciated next step forward. We have learned that if we concentrate on providing each day the most vivid, gripping and enriching experiences possible, a full readiness for reading comes in due time. Some children begin reading in the first grade, some in the second, and some in the third."

"How the primary teachers must be

criticized by those who receive their pupils," we very naturally interpose. "By no means!" is the emphatic reply. "Every one of our teachers is primarily concerned with the most wholesome development of each child. All realize that every teacher, up through the senior high school at least, has a responsibility in teaching reading. All recognize, too, that premature forcing not only injures the child but complicates the teacher's problem by producing faulty reading habits and lack of interest with consequent behavior maladjustments.

"What is true of reading is equally true of arithmetic. You may be sure that our children have many experiences that demand understanding of quantitative situations and relationships. They have frequent experiences with numbers and many real needs for arithmetical thinking. The thing we must avoid is the glib parroting of sums, products and 'gozintas' without adequate understanding of their meaning and use in life and experience. We have, then, no formal arithmetic in the first three grades, but much experience in number and quantity.

"In social studies we have two parallel strands of development: the children's own social life day by day and their study of the life of the community in its many aspects. Especially do we seek to find opportunities for actual participation in community activities, even though the role be a small one, in order that children from earliest years may identify themselves with community welfare. The whole primary program is social in a broad sense.

"First-hand experience is the basic principle in art, science and music also. In primary music, for example, pupils sing and compose their own little melodies and make their own simple instruments. If the music and the forms of expression are kept simple, six-, seven- and eight-year-olds can enjoy and profit by much actual participation. They hear much beautiful music and respond to it through dancing and other appropriate forms of expression. Music has an important place in children's dramatizations.

"In science we stress first-hand observation, experimentation and appreciation of

living things and of the forces of nature. Science is, for children, an unlimited field for adventure. We seek always to preserve the eager, exploratory curiosity of boys and girls concerning the things and forces they find in their environment. We conceive art broadly as an essential element of all experience. Children not only draw, paint, design and model, but they look for and enjoy beauty wherever it is found. We encourage them to do as many things as possible artistically or beautifully, believing with Bonser that life itself is the finest of all arts.

"Dramatization is one of the most profitable as well as enjoyable occupations for young children. Participation in the many forms of dramatization gives poise and balance, mastery of language, of emotion and of physical control; it stimulates the imagination and refines the sensibilities; it requires cooperation in effort and yields satisfaction in group achievement. Our primary children are constantly clarifying through dramatic expression the new ideas they develop. Every day they impersonate in their dramatic play the butcher, the baker, the policeman, the aviator, the farmer, the doctor, sailor and truck driver. Every day they re-live the life which they see going on around them: the housewife telephoning for the family supplies; the farmer producing milk, grain, cotton and wool; the truckmen, trainmen and seamen transporting; the merchant selling goods; the craftsmen building and the firemen protecting people's homes. The interrelated activities that make up social, economic and political life are understood and appreciated through childhood's own method of learning—dramatic play.

"Blocks are of much value, because of their adaptability, in the rich dramatic play of six- and seven-year-olds. There is scarcely a situation our children come in contact with that they do not reconstruct with blocks as they live over again their experiences and the activities they have witnessed. The idea that blocks are for younger children only has long since been discarded. Absurd, too, is the old notion that block building is merely idle amusement."

We return from our visit to the future and

find ourselves back in the year 1935. We attempt a brief summary of our observations. Whether we project into the future the developments that have recently taken place and still continue to occur, or whether we picture a more nearly ideal program of development for young children we must, it seems, stress such changes as these: 1. A more spacious and adequately equipped environment. 2. More varied, more inclusive, and more vivid first-hand experiences—more first-hand intake. 3. A wider variety of opportunities for self-expression—first-hand output. 4. More natural and normal situations and relationships between pupils and teacher. 5. Later introduction of the formal skills and abstractions of the traditional curriculum. 6. Increased emphasis on dramatic and other forms of play. 7. Growing concern for the conditions and procedures that build mental hygiene. 8. Smaller classes.

The world is profoundly disturbed. We are living through one of the greatest transitions in history, the change from an economy of scarcity and continuous labor to one of abundance and leisure. Conditions cannot long remain as they are: they must improve or they must get worse. If they improve, the cause will undoubtedly be rational planning on a large scale. In such intelligent planning, education must be more highly valued and supported than ever before.

The supreme goal of tomorrow's primary school is the creation of rich, balanced, lovely personalities, sensitive to the beauties and truths of life, gracious in manner, tolerant and cooperative in spirit, intellectually and morally honest with themselves and others, with enthusiastic devotion to the highest ideals of mankind. The method of tomorrow's school is the provision at each age level for the richest, most varied and gripping experiences possible to provide. The transition of the school "from a place of imposed tasks to a place of purposive activities appreciated in their relationships and worths by the children themselves" must be carried on to completion. Must we not seek them for every one of America's children who each year enters the primary grades?

Where Shall I Live?

GARRY CLEVELAND MYERS

Head, Department of Parent Education, Cleveland College
Western Reserve University
Cleveland, Ohio

WHO CAN name another profession in which the discouragement and worries of its members spread so widely in their ill effects as that of teaching? No profession has escaped hardship incident to the economic emergency and certainly the teaching profession has been hit severely. Hard as it has been for teachers, it has been harder still for the children, especially the younger school children. Any consideration we may have for the welfare of the child—how hopeful or discouraged he feels while he tries to learn—involves the emotional status of his teacher—how hopeful or discouraged she may be. Now such emotional tones in the teacher depend chiefly on the conditions of her living and the leading item in these conditions is, in turn, the degree of her economic independence.

Salaries and the Cost of Living. The Sixth Yearbook of the Classroom Teachers is devoted to *The Economic Welfare of Teachers*.¹ According to it, economic independence requires, among other things, adequate salaries, continuous employment during efficiency, wise personal budgeting procedure, systematic savings, adequate insurance, and satisfactory credit facilities.

From state to state and school district to school district there have been very wide differences during the past several years in the salaries of teachers and in the promptness of pay. Thousands of teachers right now can never be sure when they will receive their pay check; some have not been paid for many months. Though they go on faithfully at their work, the actual hardships of making ends meet and the uncertainties of pay checks have a disastrous effect upon their physical and mental health. And how can they keep from passing on some of their feeling to their children?

Between 1932-33 and 1933-34 the teacher's income² on the average in the United States decreased by 23.6% in terms of dollars received. In terms of buying power, her real income decreased by 30.2%. During a comparable period from February 1932 to February 1934, the real incomes of wage workers increased 27.8%. The cost of living is still rising and the income of teachers in dollars is still falling. As the cost of living rises, real income of teachers falls; as the cost of living lags, her real income rises. Living costs are almost sure to continue rising for the next three or five years. How long will the teacher's salary, not to mention her real income, continue to fall?

In the nineties \$40 to \$45 had the same purchasing power as \$100 had in the decade 1921-30. In 1889-90 the dollar income of teachers averaged \$308, but owing to the low cost of living then, its purchasing power was equivalent to \$720 in terms of 1921-30. The real income in 1918-19 was \$817 per year. Owing to increase in salary and drop in living cost, the real income in 1922-23 was \$1200. The highest real income the average teacher in our country ever had was \$1609, in 1931-32. During the next year it shrank to \$1124.

Dependents. In addition to economic uncertainties most teachers have one or more dependents. According to a recent study³ of the budgets of 629 grade teachers in Portland, Oregon, it was found that 334 persons were totally dependent on the earnings of 236 teachers, and that 612 persons were partially dependent on the earnings of 326 teachers. Thus, on the earnings of 629 teachers in the whole group, 946 people, aside from the teachers themselves, were wholly or partially dependent for support.

¹ Shuttleworth, Frank K. "The Dollar and Real Incomes of Teachers 1889-90 to 1933-34." *School and Society* 39: 683-88, May 26, 1934.

² Short, Jessie M. (Compiler) *Women's Wages Compared with the Living Costs and General Community Standard*. Reed College Bulletin. Reviewed in *School and Society* 39: 336-37, March 17, 1934.

³ N.E.A. Department of Classroom Teachers. *The Economic Welfare of Teachers*. Sixth Yearbook. Washington, D. C. 1931, pp. 244.

More often than not the dependent is an aged person who needs physical care which demands of the teacher that she serve as a nurse during times of illness and that she do much or all the house work. Generally it is the only human thing to do, yet what of the effect on the children in school and her teaching efficiency?

Where Teachers Live. Dr. Elmer H. Staffelbach made a study of "Living Conditions of Teachers in Service."⁴ He says that many teachers find it impossible to secure a boarding place of comfort and convenience in the better homes of the school community. "Unfortunately, particularly in the rural communities and small village districts, the board-money which the teacher can afford to pay is little inducement to the better home to take her in while homes that are willing to take her for the sake of the board-money not infrequently maintain standards of living so far below that to which she has been accustomed and so far below what she is justly entitled to expect for herself, that her life there becomes a kind of nightmare of discontent and unhappiness."

Dr. Staffelbach made inquiry to see what principals and superintendents are doing to help teachers find suitable living accommodations. He found that city superintendents give the matter slight attention and that most of them think it is no concern of theirs. Some of the district superintendents showed more interest but among the county superintendents studied, only 2% had any regular plan for helping the teacher find a comfortable place to live.

The teacherage or teacher's home is slowly developing, especially in the rural areas. Usually these homes are built on the school grounds or nearby and are maintained by school funds. Texas has 1330 of them valued at nearly two million dollars. Counties which provide teachers' homes usually secure the best teachers and keep them for a longer time than do others.

Most teachers in cities and towns live with their families or relatives, especially those who have some person or persons dependent upon them for support. Often the

adults of the average family of the teacher are inclined to feel that since she merely teaches, some "exercise" at home should be good for her and that naturally she should do a great deal there. Besides there are often younger children in the home to be cared for. They normally will not promote the calm and quiet of home life the teacher so greatly needs. Moreover, the effect of their presence upon the average unmarried teacher may be more unfavorable than if they were her own children. Though she might feel less responsibility, she also lacks authority to manage them as she thinks proper. To be around children who are poorly managed and to feel constantly annoyed by them without having the privilege of doing something about the matter is very trying, indeed. On returning from school, the teacher needs to be able to loll about and relax with good conscience. Also she needs social recreation and this she often lacks. While living with her family she is inclined to relate her worries of the day and they, wishing to show sympathy, usually will encourage her with the result, perhaps, that she magnifies her feelings of self-pity.

The depression has increased the number of teachers who live with their families since appointments of teachers recently have often been affected by local pressure favoring appointment of those who live in the school district. Sometimes preference is given to those with dependents rather than to others more capable.

Regardless of the depression, the automobile has enabled many more teachers to live at home. Many who teach in rural schools or small towns drive daily to their homes in a larger community. Or some will travel long distances to their homes to spend the week-end, living out of a suitcase during the five school days. Some school communities are complaining because the teachers of their children do not live there. Some school districts, indeed, even in large cities, are beginning to demand that teachers live in the school district or municipality where they teach. This has meant severe hardship for some teachers.

Ever so many teachers will take a board-

⁴ *Sierra Educational News* 25: 39-40, May 1929.

ing place or apartment with one or more other teachers. What other group of persons is so clannish? Yet about the least desirable living companion for a teacher is another teacher; from nearly every angle this is so. Teachers long and often together will forever talk shop, running round and round like squirrels in a cage within the narrow limits of their common interests.

Some teachers who attempt to live with other people have great difficulty in adjusting. They have become so accustomed to the teacher-pupil relationship that it becomes increasingly harder to assume the learner's role and mix freely with other adults who don't treat them as their pupils do. Just to spend day after day with children who look up to her for wisdom and guidance and over whom she has control has a peculiar psychological effect on the teacher and her attempts to adjust to adults with whom her relationship is quite different. Here we have

some of the psychology of "schoolmarmness" with which some teachers early are afflicted.

All else being equal, the teacher would enjoy better mental health, have a richer personality and wider human wisdom if she were to make it a rule to spend far less time during her hours out of school with other teachers. She will be wise to seek living quarters with those whose interests and experiences are widely different from hers.

What the average teacher lacks most is opportunity for social contact with young men. So long as the public insists on employing unmarried women teachers only, this problem won't grow much simpler. It would seem that if principals, superintendents and parents really cared about the greatest happiness, mental health and personal efficiency of their teachers, they would provide many opportunities for them to enjoy social contacts with those of the opposite sex.



Childhood—The First Eight Years

The Association for Childhood Education is justly proud of its growing list of publications and is pleased to announce at this time its cooperation as editor with Houghton Mifflin Company in the production of five volumes entitled *Childhood—The First Eight Years*. These books are written especially for parents and cover all phases of child development in the first eight years. Readable, usable books, they will be welcomed by the everyday mother and father who want to know not what theory is in vogue, but *what to do*. These books, prepared under the supervision of the Parent Education Committee of which Josephine Foster is Chairman, will be published in the fall of 1935.

Volume One, *Growth and Health*, by Dr. Harold H. Anderson, psychologist and member of the faculty of the Child Welfare Research Center at the University of Iowa, deals with physical, mental and emotional growth. Good physical habits, sound social attitudes, and proper diet and clothing are treated in detail with advice for every stage from infancy through the first school years.

Volume Two, *Nature and Science*, by Bertha Stevens, author of *Child and Universe* and a member of the faculty of the Avery Coonley School, presents the order and beauty of the universe in terms that the parent can pass on to the child. Scientific playthings are suggested and experiences in woods, fields, and gardens are shown to be rich in discoveries and adventures.

Volume Three, *Play and Play Materials*, is devoted to play activities, to indoor toys and games, and outdoor equipment with special suggestions for the convalescent child, holidays and birthdays. There is ad-

vice on family pleasures, playmates, drawing and painting, motion pictures and the radio, as well as parties, pets and gardening. Problems of fatigue and the need of rest are not lost sight of and there is help on the development of desirable qualities such as self-reliance and consideration for others.

The authors are Rose H. Alschuler, Staff Director of the Winnetka Public Nursery Schools, and Christine Heinig, Associate in Nursery Education, Child Development Institute, Teachers College.

Volume Four, *Stories and Verse*, compiled by Mary L. Morse who is chairman of the Literature Committee of the Association, contains stories and verse to be read to children. Famous old stories, fairy tales, and jingles are included in abundance with modern poetry and stories of present-day children. The introductory chapters give suggestions to parents as to how to encourage the child's own creative impulses and to develop the love of good books.

Volume Five, *Favorite Songs*, is a collection of much loved songs, Mother Goose rhymes set to music and folk tunes, all simple enough to be sung by small children, but of lasting value. Introductory chapters discuss the development of a love for music, questions of piano lessons and practice, and the possibilities of other instruments. There are lists also of recommended piano pieces and phonograph records.

The author and compiler is Thomas Whitney Surette, Director of the Concord School of Music and associate editor of *The Concord Series*, as well as the author of many fine contributions to the field of children's music.

EDNA DEAN BAKER, *President*
Association for Childhood Education

Science and Poetry

BERTHA STEVENS

Author, *Child and Universe*
Downer's Grove, Illinois

NATURE is poetry; and nature's procedure can speak to the poetic consciousness of an individual with more power than any humanly created poem is likely to do. Thus Langdon-Davies has written of the superlative kind of poetry which the scientist translates from the language of stars; Eddington says he knows mathematical equations which in their sublimity of thought vie with sonnets of Rupert Brooke; Whitehead says Shelley writes in the language of exact science and that, living in another day, he would have been a Newton among the scientists; J. Arthur Thomson quotes the poem:

God on His throne
Is eldest of poets.
Unto His measures
Moveth the whole.

Since nature is intrinsic poetry we are not surprised to find poetry used largely as a medium of expression for ideas and feelings about the universe. It is reasonable to turn to the poets as well as to the scientists in our efforts to lead children into fullness of experience regarding the nature world. But with thousands of poems to choose from, our choice might be a problem if we did not recognize that the poetry which can do most for them is not the personal, sentimental, moody or deliberately childlike kind. It is the poetry which brings out universal ideas, or awakens the reader's own thought and sends it further, or states accurately some fact of science with the beauty of well-chosen words that can serve the purpose of teaching.

In my experience three general sources have been most fruitful: Walt Whitman—appropriated in selected lines rather than in whole poems—for his living consciousness of the universal and his awareness of the relation of the parts to the whole; the Bible for the simplicity and majesty of its language; Japanese Hokku poets for their intimacy

with what is true and beautiful in nature and their simple accurate pictures. Japanese poetry has the further advantage of suggesting more than it states, leaving the reader to continue the thought of the poem in his own consciousness, if his experience with nature is adequate to this. Shelley and Wordsworth, as Whitehead has pointed out, conceive the universe as one whole and feel the presence of the whole in separated manifestations. Whenever I have found poems or parts of poems of these writers which it seems likely that children can understand I have been glad to use them.

Poetry is the language of the spirit. It is the language of primitive people and of children. Both primitive people and children are close to nature in their feeling and interests. If a teacher will salvage them, she will find that many casual or merely news-giving remarks of children are poetic in quality—in idea, in words, and in rhythmic swing. An illustration is this unintended one of a little boy regarding a vacation experience from which he had just returned:

Up in the woods you heard a wild bird singing
Across the pasture and up the hill.
A long woods, but a short way through.

With children of the primary grades it seems advisable to encourage their expression through the medium of words, poetic or otherwise, without self-conscious effort on their part. It has never been my custom to ask primary children to write poetry; but nearly all the children in primary groups I have worked with have at sometime done this in connection with universe study.

An unself-conscious method of turning children's thought into words is that of proposing to them some word such as "light" or "beauty" and letting them tell immediately what spontaneous thought or picture the pronouncement of this word gave rise to. They love to do this, and sometimes it

is easy to say, "Instead of telling each other your thought or picture, make a drawing of it"; or, "Write it." This may be their introduction to creative writing. It has this advantage: the children start with something to say.

An extension of this method is made possible by suggesting to children that they may repeat the word to themselves, thus adding to the mental response and gaining added material for writing. Sometimes two children enjoy the game of giving words to each other, whereby a creative occupation is provided for both. Usually the resultant writing is poetic in quality, though it may not be so in form.

Avoidance of rhyme in children's early expression seems to be advisable. When rhyming is the interest, the quality of the thought is almost sure to deteriorate. Metrical swing, however, is natural to children; and work produced as prose often reads like verse. The following is an illustration of such unconscious rhythm: "Trees are swaying, birds are singing, tadpoles are in the brook. Squirrels jump from tree to tree, and seeds are dropping for fall. I go up on a rock and look far away, and I see a bird's nest up in a tree."

Group work in the production of a poem or other literary form seems to me unsatisfactory to the children and inartistic in its result. Form should be always an individual expression. But a group working together to suggest similes or to build a vocabulary to cover a shared experience can achieve something interesting and profitable to all. Examples of children's individual use of simile are shown in the following cloud poems by children of seven and eight years of age:

O white drifting clouds,
O white drifting clouds,
You are so beautiful to me.
You look like white shadows
Moving softly across the sky.

Clouds move slowly
Across the sky
Like smoke from a fire
In a gentle wind.

Following the study of the rock of the earth's surface a rock vocabulary was assembled. The words given below, out of a total list of 500 contributions, are some of those which suggest poetic quality. In fact it would not take much imagination to conceive the poem these words might build:

towering	ancient	might
sculptured	weathered	grandeur
carved	ravine	beauty
mossy	gorge	juts out
cathedral-like	canyon	overhangs
castle-like	cliff	rolls
pinnacled	strength	withstands

One of the few occasions when I have directly promoted the writing of poetry was with a group that had been especially responsive to the little seventeen syllable Hokku poems of Japanese writers. In this instance I suggested to the children the leading ideas of a Hokku which they had not read. Then they wrote so-called Hokkus of their own. Following this they heard the real one read. To the suggestion "dawn in summer" two children wrote with an ellipsis of expression not unlike the Japanese.

The summer night is not yet gone
And yet—the dawn is on us.
I see a field in dawn
Just before the sun has risen.
The grass is wet with dew.

The Japanese Hokku, which they could see surpassed their own, was this one:

A lovely morn!
How hushed and still is all the world
In wonder at the dawn.

Children can reflect the universe through the medium of poetry which has little to do with information or conscious observation; they can use words and rhythm to express the fact that they get the "feel" of the universe and realize their kinship with it. Because of this accepted relationship, perhaps, they sometimes write poems like this one:

Spring comes skipping in!
Oh I am so happy.
The buds come out
And children shout
For spring comes skipping in!

My Shadow

GENEVA A. LOGAN

Classroom Teacher
Dennis School
Decatur, Illinois

IT WAS the morning recess on a late March day and thirty second-graders were playing games of ball, jumping rope, marbles, and Chinese tag. Sweaters, coats, and caps soon came off as the vigorous games continued.

The bell rang and recess was over. The children returned to their room much exhausted from their hard play.

"Jumping rope is lots of fun," said Mary.

"Chinese tag is fun too, Mary," said Jean.

"We played ball," said Billy—and then he added, "Don't you think it's too hot in the room? May I open another window, Miss Logan?"

"Surely, but why did I see you remove your coats and sweaters when you were playing? You didn't find them too warm when you came to school this morning."

"We were running and that made us hotter."

"I think it is because the sun is hotter now than it was this morning."

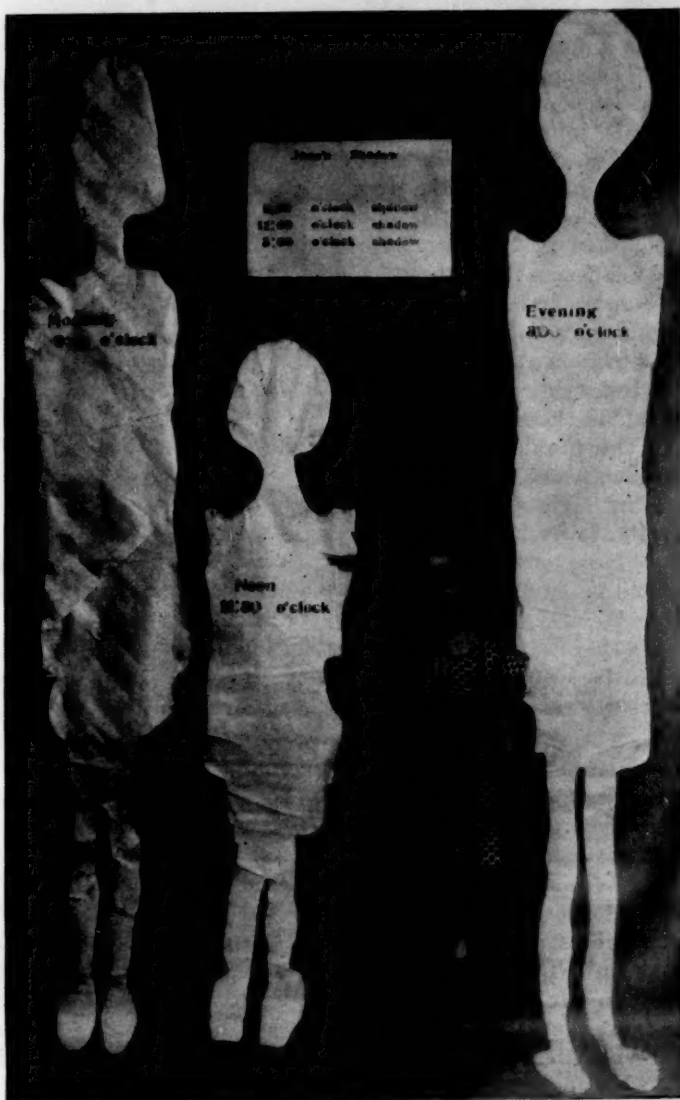
"Why is the sun hotter at recess time than it was at nine o'clock?"

"Because in the morning it is just coming up but at recess time it gets high in the sky and shines right down on us."

"Will there be a time today when the sun will be hotter than it is now?"

And so questions about the sun continued most of the science period. We decided that the best way to

know the sun was to watch it. We planned to keep a weather chart recording weather changes from day to day. Fortunately, the next few days were bright and clear and we continued our observations. Recalling the



Jane and her shadows cut from wrapping paper.

number of play hours in the winter season as compared with the number in the spring and summer seasons, we learned that the sun gives us light as well as heat. We noticed a decided change in the length of the days because the play hours out-of-doors become longer and it is not dark by supper-time. So we concluded that the amount of heat and light the sun gives us depends upon its position which is constantly changing.

"Why isn't the sun always in the same place? What makes it change its position? Does it move or is it the earth that moves?"

"The sun does not move. It is the earth that keeps moving. The earth is like a big top. It spins around and around on itself. It takes one day for the earth to turn around once. When the earth turns so that the sun begins to shine on us it is sunrise and when we turn away from the sunlight into darkness it is sunset."

Sunrise and sunset began to have some significance and so there developed a study of directions east, west, north, south.

"But where does the sun go at night when it sets in the west?"

"The sun does not go anywhere. We are turning away from the sun. While we are having night people in other parts of the earth are having their day because the sun is shining on them. Without the sun we would be having darkness and night all the time."

From our personal experiences and observations we came to the following generalizations:

1. The sun rises in the east because the earth turns toward the east. In the morning when we first begin to see the sun the earth begins to grow light about us. When the earth is light we have day.

2. At noon the sun is overhead and the earth is very light. We have the warmest and lightest part of the day when the sun is high up in the sky above us.

3. In late afternoon the sun begins to set because we are turning farther away from it. When the earth turns away from the sun the day gets dark and we have night.

During the study of the sun and its relation to the earth and its movements, maga-

zine pictures showing objects and their shadows were placed about the room.

"Why do these pictures look different from the ones in our other books?" asked James, holding up one of the pictures before the class.

"They have shadows in them," answered Frederick.

"Do boys and girls have shadows?"

"Yes, most everything has shadows."

"But you can't have a shadow if it is a cloudy day because it takes the sun to make a shadow," added Phillip.

And then began the collection of many shadow pictures—short, fat ones; long, skinny ones; wiggly, crinkly ones; big shadows made by small objects and small shadows made by big objects. For the next few days when the sun was shining the boys and girls observed their own shadows—those they made in the morning on the way to school, those at noon when the sun was high in the sky, and those made in the late afternoon. From these observations they saw that their shadows were not always the same size because the time of day made a great difference in them.

"Would you like to see just how big your shadow is at different times during the day? How can you find out?"

The children immediately became quite excited and very enthusiastic over the idea.

"But how can you make a shadow picture of yourself? Every time you move your shadow will move too."

"We can make pictures of each other. You must stand still and let your shadow fall on a paper while someone draws you."

The next morning at nine o'clock long pieces of brown wrapping paper were laid on the ground and Jane was chosen first. The tracing of her shadow on the brown paper began. Some of the children held the paper at the sides and ends, some gave directions and others took turns in drawing the shadow. Many giggles and much laughter accompanied the drawing. Finally Jane's shadow was outlined on the paper.

Returning to the schoolroom the children took turns in cutting out the shadow. At noon Jane's shadow was drawn again, and at the close of school the procedure was

repeated. The three shadows were hung on the wall and the time of day each was taken was recorded on them.

This question followed: "Why is Jane's shadow long in the morning, short at noon, and long again when the sun goes down?"

While the children had discovered that their shadow wasn't always the same size they did not realize how great the variation in size would be. They were very much amused at Jane's shadows and from their discussion which followed, they answered their questions:

Jane's shadow is longer in the morning because the sun is low in the sky.

Jane's shadow is short at noon because the sun is high in the sky.

Jane's shadow is longer in the afternoon because the sun is going down.

For the next few days many of the group were performing this same experiment at home. Not only did they have someone draw around their own shadows but they drew the shadows of many objects such as balls, bowls, and toys. Always they came to the same conclusions that we had made at school regarding Jane's shadow.

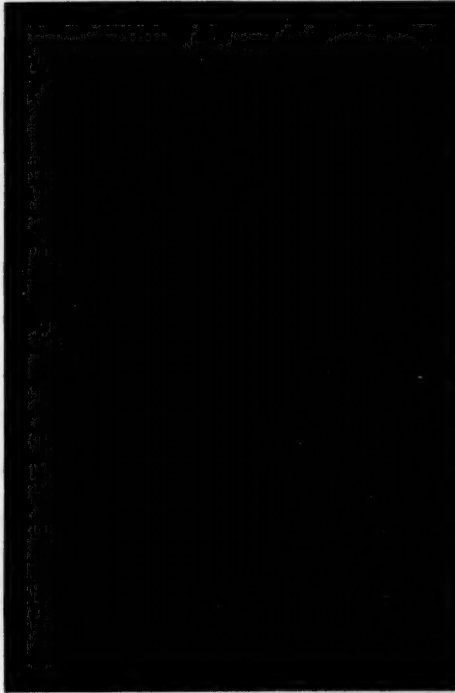
Another interesting experiment which grew out of our shadow project was the making of silhouettes. We used a flashlight in a dark room to get the natural size head shadow. The child sat next to the wall so that his shadow would fall on the paper that

had been placed there.

We traced around the shadow, cut it out, then pinned it on a large sheet of black paper. We put white fresco paint in an insect sprayer and spattered paint on the parts of the black paper not covered by the cut out picture. When the shadow cut-out was removed the silhouettes were made.

There were several experimental art lessons showing objects and their shadows. All of this study provided excellent material for English work and many delightful reading lessons. As many poems and stories as could be found on this unit were read to the

children and then placed on the library table for them to enjoy. Through this fun with shadows the children seemed to develop keener powers of observation; appreciation of form, shape and size, and a greater interest in general in things about them.



The funniest thing about him is the way he likes to grow—
Not at all like proper children, which is always very slow;
For he sometimes shoots up taller like an India-rubber ball,
And he sometimes gets so little that there's none of him at all.

My Shadow—ROBERT LOUIS STEVENSON

Arithmetic Meanings

AMY J. DEMAY
Mathematics Instructor
Children's Village
Dobbs Ferry, New York

Owing to lack of space in the May issue of CHILDHOOD EDUCATION (Number in the Primary Grades) it was necessary to omit this article by Miss DeMay and the one following by Miss Stretch. The editors regret that this was necessary but take pleasure in presenting them at this time.

MOST educators are probably now convinced that children should be given definite number instruction from the time they enter school even, for that matter, while they are still in the kindergarten. Educators are also probably convinced that such arithmetic teaching should not consist merely in the formal memorizing of meaningless symbols and meaningless names. Instead, there is fairly general agreement that from the beginning number work should arise out of the experiences of the child in his school and out-of-school work and play, and that the teacher should so manage his contacts with quantitative situations that he may come to know the number combinations needed for solving his own problems and for the more formal work of the next grades. "It is experience that makes number significant to the child. Realities must be associated with every symbol in his mind. If continued too long, however, the concrete becomes burdensome; if the concrete is not used wisely when necessary, number becomes meaningless manipulation. . . . All number work of grade one should be planned carefully if it does not arise naturally, but taught informally and incidentally as a part of larger experiences and integrated in every way possible with other work of the grade."¹

Arithmetic Outcomes for Grade One. Bernetta² has very well summarized the objectives for the teaching of arithmetic in the first grade as follows:

¹ Adapted from Sherwood: *Course of Study in Arithmetic for Elementary Grades*, 1930, pp. 88 and 53.

² Bernetta, Sister M. "A Survey of Specific Objectives and Children's Activities for the Elementary Grades." *Contemporary Guide in the Teaching of Arithmetic*. Ann Arbor, Michigan: Edwards Brothers, 1933, pp. 6-13.

1. To build up a body of mathematical imagery and concepts necessary for arithmetic readiness: (a) to develop insights into quantitative aspects of life, and (b) to develop an appreciation of size relationships.

2. Ability to use the following vocabulary: above, across, afternoon, around, as long as, as many as, as much as, back, behind, below, between, center, change, circle, case, cupful, day, deep, down, far, first, front, glassful, half as much, heavy, high, in front, inside, large, last, left, less than, light, low, middle, more than, morning, narrow, near, next, night, outside, over, pay, rectangle, right, short, square, small, tall, table-spoonful, teaspoonful, thick, thin, today, tomorrow, triangle, under, up, wide, yesterday. Comparison of all adjectives.

3. To teach the following number facts and relations: (a) Counting by 1's to 100. Meanings: series, ordinal, cardinal; (b) Counting by 10's to 100; (c) Counting by 5's to 100; (d) Reading and writing numbers to 100; (e) Recognition of groups of 2's, 3's, 4's, and 5's without counting.

4. A comprehension of and an ability to use the following measurements: (a) pint, quart, gallon; (b) foot, inch, yard; (c) dozen.

5. To begin to develop the idea of telling time: hours, half-hours.

6. To teach a correct concept of $\frac{1}{2}$.

7. To teach the meaning of addition: few very simple combinations that may be necessary in a unit.

8. To teach the meaning of subtraction: few very simple combinations necessary in a unit of work.

9. To develop the ability to recognize and appreciate the relative values of: penny, cent, nickel, dime, quarter, half-dollar, dollar.

Desired concomitant learning: joy in knowledge of skills and pride in their applications; a familiarity with fundamental arithmetical concepts such as: size, dimension, and relation; a desire to know more about number relations; to develop certain habits of accuracy, estimation, approximation, and comparison.

Sister Bernetta's list may look rather formidable to some. Still, many of the concepts listed are acquired by children informally,

outside the school. The teacher's main business then is to see that her pupils' number contacts show number in correct relationships, thus preventing the establishment of erroneous ideas.

General Outline of Instruction.—First, then, the child must have number experiences. For these there seems to be plenty of material about the school room, provided the teacher discovers it and properly guides the child's activities with respect thereto. Second, he must have experiences with pictures to represent actual objects with which he is familiar. Pictures are the beginning of the bridge from actual concrete objects to formal abstract work. The child learns early to see in pictures the representation of things and actions. He has learned to do so in most cases before he comes to school and, if not, he learns it in the kindergarten and early in the first grade. Thus the child is on familiar ground when groups of pictured cats, dogs, dolls, balls, etc., are used for counting, adding, subtracting, and comparing.

Then, third, when the child has grasped number meanings and number relations from actual objects and the pictures of actual objects, he is ready for the next step in the transition from the entirely concrete to the totally abstract. This step is made easier if such semi-concrete materials are used as number pictures or number patterns made of dots, rings, lines, etc. Fourth, he should then, and then only, be given corresponding experiences with the number symbols that stand for the quantities.

If instruction is organized around these steps, the gap between concrete and symbolical number is bridged safely, a gap that heretofore pupils have been required to manage somehow for themselves. Too frequently they have had to leap over the gap and have landed on the opposite side in the midst of a perfect wilderness of unknown symbols and meaningless names. Slowly, sometimes after years of school work, such children have finally come to the understandings which properly should long since have been provided them. Only then, years after they have been "taught" them, do

they appreciate the quantities for which the symbols stand.

The Need for Systematic Materials. One of the reasons for difficulty with the connotation of number symbols is probably the fact that children have no contacts with systematic materials until the third grade, when for the first time they meet the strange language and strange forms of the textbook. Suddenly now they must become acquainted with the form and unaccustomed language of examples presented by means of new signs, words, and symbols. It should be possible to avoid this abrupt introduction to text materials. It should be possible to place early in the hands of pupils pictorial and printed materials.

Nature of Materials. These materials, of course, should be built for the purpose. They should not be in the old formal type of the arithmetic text. They should begin with the word names for the numbers instead of with the number symbols. They should provide a certain amount of reading content to enable pupils to use the materials under their own direction. They should present by pictures the number in the series so that children will know what it means to count four, or six, or ten. They should show by means of pictures and sentences the meaning of adding, subtracting, and equals, for example. When children can read about these ideas in the same language they use in conversation and discussion and when their reading experiences parallel their non-reading experiences, the bridge will have been built over which they can pass easily and sensibly to the use of meaningful symbols.

Introduction of Digits by Pictures of Objects. The number symbols may then—indeed should then—be introduced in reading as soon as the ideas have taken on proper meaning through oral instruction. For example, as soon as the counting series has reached four, and the words one, two, three, and four have been learned along with their meanings, the figures 1, 2, 3, and 4 may be introduced. Thereafter they should be used part of the time in place of the words on the blackboard and in other reading matter.

As soon also as four is reached, the addition and subtraction of quantities should be started, first with objects in actual activities, and then with pictures. Such familiar objects as can be used in the schoolroom should be pictured. At first the word "and" should be used as "Two balls and two balls make four balls"; but soon the plus sign, +, may be taught and used interchangeably with "are" or "make." At the beginning both sign and word should be presented together as shown in Illustrations 1, 2, and 3.

Semi-concrete Representations. At this point there should be the transition from the pictures of concrete objects to semi-concrete representations, that is, to these processes as applied to dots, lines, rings, etc., as in Illustration 4.

This grouping by twos opens the way to later counting by twos—the same thing applies to threes—when four and six are reached.

In the case of dots, lines, and rings, the number dictated by the teacher can be made by pupils on the board; other pupils can be told to erase a certain number of the lines made. Then still others may be asked how many were left on the board. This exercise is very flexible and is open to great variety. Furthermore it calls for the activity, the doing of something, in connection with learning, that is so necessary with small children.

The Combinations. The next important instructional step is to introduce the combinations in both the vertical and the horizontal arrangement. If the symbol, +, has been taught (as it should be) and also the symbol, =, it will not matter whether the vertical or the horizontal form is presented first. Indeed, both these algorisms may be presented together and used interchangeably if the symbolism has been previously taught. The children may be given such simple examples to solve as the following:

1	1	2	
+1	+3	+2	
—	—	—	
			1+1=
			1+3=
			2+2=

Adding an Unseen Number. A new and a difficult skill becomes necessary when more

than two digits are to be added in column addition. This skill should be taught as soon as possible because of the variety of seat work it affords. This is the skill of adding an unseen number to a seen number. The teaching of this skill has been much neglected, a fact which may account for some of the difficulty that younger pupils have with column addition. Take the example 1 or

2

1

the form $1+2+1=$. Here the pupil must add two numbers as 1 and 2 are 3, which he sees, and then must hold this unseen 3 in mind and add it to the 1 which he sees.

If counting, tapping, etc., are to be prevented, the ability to add an unseen number to a seen number must be taught early and well. This can be done by a series of pictures and then by dots or rings, as in Illustrations 5 and 6.

Use with Other Numbers. This graded series of instructional steps should be carefully followed with each of the numbers from one to ten; first, the meanings of concrete quantities as represented in actual objects, then the transition by means of pictures of objects and by means of semi-concrete materials, and finally the abstract, through the presentation of the number symbols themselves.

Teaching Problem-Solving. Another phase of number work must not be lost sight of. This is the fact that arithmetic exists for the purpose of solving quantitative problems—school problems—but more especially out-of-school problems. Teaching children isolated number facts is a waste of time if these facts are set as the goal of instruction. The facts are to be used. Even when the numbers under consideration are presented in real objects, the activity set up should involve more than the handling of objects to ascertain that a certain number added to a certain number equals another certain number. Problems can be built around blocks, for example, the blocks being used as parts of the problem.

Verbal problems within the children's ability and experience should require the

Addition and Subtraction Facts Presented by Pictures

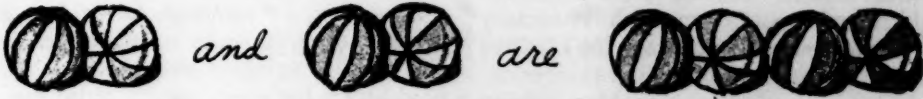


Illustration 1. Two balls and two balls are four balls.
 $2 \text{ balls} + 2 \text{ balls} = 4 \text{ balls}$.

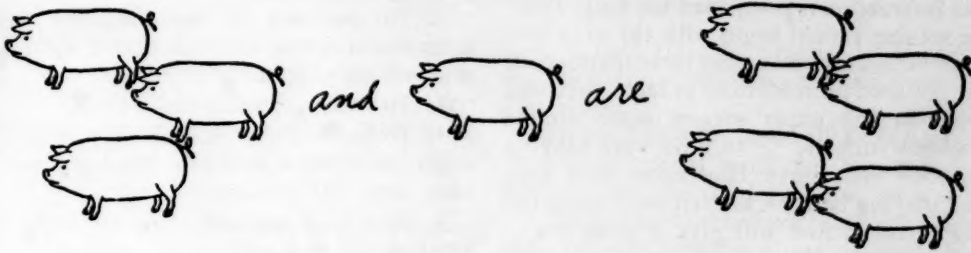


Illustration 2. $3 \text{ pigs} + 1 \text{ pig} = \underline{\hspace{1cm}}$ pigs.



Illustration 3. Four boys were standing in a line. One boy ran away. Then there were $\underline{\hspace{1cm}}$ boys standing in a line.



Illustration 4. $2 \text{ dots} + 2 \text{ dots} = \underline{\hspace{1cm}}$ dots.



Illustration 5. $1 \text{ ball} + 2 \text{ balls} = \underline{\hspace{1cm}}$ balls. $3 \text{ balls} + 1 \text{ ball} = \underline{\hspace{1cm}}$ balls.



Illustration 6. $2 \text{ dots} + 1 \text{ dot} = \underline{\hspace{1cm}}$ dots. $3 \text{ dots} + 1 \text{ dot} = \underline{\hspace{1cm}}$ dots.

$$\begin{array}{r} 2 \\ 1 \\ \hline \end{array} + \begin{array}{r} 1 \\ 2 \\ \hline \end{array} = \begin{array}{r} 1 \\ 1 \\ 2 \\ \hline \end{array} \quad \begin{array}{r} 1 \\ 2 \\ \hline \end{array} + \begin{array}{r} 1 \\ 1 \\ \hline \end{array} = \begin{array}{r} 2 \\ 1 \\ 2 \\ \hline \end{array}$$

use of the learned facts. Many natural life problems will arise in the schoolroom itself, but these will not be enough. The teacher should supplement them with imaginary problems and should encourage the children to invent imaginary problems of their own.

It is in connection with problem-solving that the failure of arithmetic instruction is most apparent. One reason for the failure is that instruction is postponed too long. Problem-solving should begin with the very first introduction of the number facts themselves. The pictured presentations of facts discussed earlier in this paper suggest many simple problems such as, "Five boys were playing ball. One went home. How many boys were then playing ball?" Children soon grasp the idea involved and will give a great many oral problems from their own experience. Imaginative pupils will easily make up others. Such problems give more interesting and more meaningful practice than does the manipulation over and over again of number symbols alone. Besides this oral work, the simple vocabulary presented in connection with the pictured quantities may be used for

simple problems which the pupils may read and solve for themselves.

Summary. To summarize, the first grade teacher, then, in order to make meaningful the number symbols and their uses, must hold before her eight specific objectives:

1. To teach number meanings before presenting the symbols.
2. To graduate in well-prepared steps from the concrete to the abstract by intermediate use of number patterns.
3. To teach grouping and its use.
4. To present the symbols only after the concrete and semi-concrete ideas of number have been established.
5. To tie up the concrete idea with the symbol.
6. To get the child to have the concepts of twoness, threeness, etc.
7. To give meaning to such arithmetical language and symbols as are needed in the first two grades.
8. To teach enough reading vocabulary to provide for problem work.



"How Today's Teacher Can Meet Modern Problems"

Swampscott, Massachusetts

June 26-29, 1935

"How Today's Teacher Can Meet Modern Problems" has been chosen as the keynote of the Forty-Second Annual Convention of the Association for Childhood Education. Eleven study classes will give convention delegates the opportunity to discuss specific modern problems in education and to compare ways of meeting them. Topics for these classes and their leaders were published in the April and May issues of CHILDHOOD EDUCATION.

The general evening sessions will be devoted to discussions of the broader aspects of teachers' modern problems:

The Teacher Sets Her Own House in Order

An inventory of the past and a philosophy for the future.

George H. Preston, State Commissioner of Mental Hygiene, Baltimore, Maryland.

The Teacher Makes an Alliance

Cooperation of home and school for the benefit of the child.

Emily Newell Blair, Chairman—Consumers Advisory Board, National Recovery Administration, Washington, D.C.

J. Mace Andress, Editor—*Understanding the Child* Boston, Massachusetts

The Teacher Falls in Step With a Marching Nation

Education in relation to a changing national scheme.
Bess Goodykoontz, Assistant Commissioner of Education of the U.S., Washington, D.C.

A question council will follow this address.

The Teacher Explores the World

Understanding of other countries influences educational progress at home.

Sir Wilmott Lewis, Washington Correspondent of the London Times, Washington, D.C.

The Value and Limitations of Drill in Arithmetic

LORENA B. STRETCH

School of Education
Baylor University
Waco, Texas

THE following incident is not unlike many to be observed during the primary arithmetic period. The teacher stands before her pupils, holding three pencils in one hand and five in the other. She says:

Here, children, are three pencils. And here are five more. Now, John, come here and put the two groups together. Count them. How many are there? . . . Yes, there are 8. Children, John has found that $3+5$ are 8. How many are $3+5$? . . .

Then comes practice in saying and writing the fact until the children have "learned" it.

Asked what she is doing, the teacher replies that she is teaching the addition fact, $3+5$. After all, she says, it is not very hard to teach this fact. If she presents $3+5$ and 8 together often enough, the children will form the necessary association. The learning is not very difficult.

In her opinion instruction and learning in primary number are as simple as this; and so she continues to present fact after fact. One concrete demonstration of the fact is regarded as sufficient. Indeed, even this one may be given only as a grudging bow to convention. From then on, to drill is entrusted the task of teaching the number facts. Drill supplies opportunity for repetition, and what more is needed?

DRILL AS USED HERE

Drill is used in this paper as a general term to cover all instructional devices which are designed to bring about repetition and unvarying practice on the part of the child. In the case of the number combinations drill takes the form of flash-card exercises, rapid oral games, timed written tests, and the like. In the case of the processes drill takes the form of applying mechanical skills to hundreds of examples in addition and subtraction.

In both cases the practice is essentially unvaried; the same things are done over and over again.

The teacher who uses drill as her sole or chief instructional method is hardly apt to ask whether the children know what they are doing or understand why they do it. That is to say, the problem of meaning probably does not occur to her. If questioned on the point, she would answer, possibly, that she sees no difficulty there: most of the skills or facts she is teaching are so simple as to be obvious, and those that are not so simple will be understood some day. To her, the important thing is that children shall be able to supply promptly correct facts. Consequently her emphasis is upon drill as the most economical and effective means of securing this ability.

PREVALENCE OF THE DRILL METHOD OF INSTRUCTION

Perhaps the reason for the persistent popularity of drill lies in the continued popularity of a psychology which seems to guarantee the effectiveness of repetition for learning. According to this psychology learning consists in the formation of bonds between specific stimuli and equally specific responses. Thus, the learning of $3+5=8$ involves only the establishment of a connection between $3+5$ on the one hand and 8 on the other hand. Practice, to be economical, must be directed upon the formation of this connection. The pupil is required to think, say, and write $3+5=8$, this and this only, until the bond has been formed. Repetition seems to do the trick in the case of the number facts. It seems to do so also in the case of other features of arithmetic.

No other psychological theory of learning has been more widely taught than has this

one of bonds. It is easily grasped; it seems to fit the facts. As a consequence, the Law of Exercise, once suggested as the important factor in all learning, continues to dictate much of primary number instruction long after most psychologists have come to emphasize other factors than repetition as the real determiners of learning.

WHAT DRILL DOES

Now, there is little question but that drill produces results of a kind. Drill (repetition) does increase speed and accuracy in a reaction, whatever that reaction may be. There is little question but that doing a thing over and over makes it easier to do that thing. The trouble is not at this point—or perhaps it is. If one, by chance, practices a poor or wrong reaction, he gets from that repetition, not a new improved reaction, but greater proficiency with his old undesirable reaction. Drill or repetition cannot furnish a different or a better way of doing anything. Instead, it fixes the type of reaction that is practiced. Thus, it cannot give the learner an understanding of what he is learning. If he does not have this *before* drill, he will not have it *after* drill.

As applied to arithmetic, then, drill which is given prematurely and is relied upon excessively has harmful effects. It tends to encourage children to memorize facts they do not understand and to acquire skills in which they see no sense. The meaningless facts and mechanical skills so taught constitute a poor foundation upon which to build the ability to think precisely and intelligently in quantitative situations.

THE INADEQUACY OF DRILL

1. *Number combinations.* One best appreciates the inadequacy of drill when one considers the nature of arithmetic itself. Let us take the number combinations again for the purpose of illustration. These number combinations are not "facts," as they are commonly called, in the same sense that "Washington was our first president" is a fact. The number combinations are *generalizations*. That is to say, they are abstract truths of wide application. They are "universals"—

$3+5=8$ applies to roses as well as to elephants and dreams and onions. The child can readily understand that 3 pencils and 5 pencils are 8 pencils. This is a fact, and he can learn it as such. But it is not a generalization in the broad sense that $3+5$, no matter to what applied, always make 8. And the generalization that 3 and 5 are 8 is hard to learn.

It takes time for the child to arrive at generalizations. He acquires them slowly by noting likenesses and differences in the many instances of the generalizations that he meets from time to time. One cannot magically provide him with generalizations merely by giving him the words in which those generalizations are stated. Properly learned, the verbal statements for the number combinations are expressions for well-rounded ideas. Memorized as they so frequently are by children, they express nothing more than sounds and vague, uncertain impressions.

Understanding of the nature of generalization reveals why drill is so poorly adapted to instruction on the combinations. Children must be provided experiences through which they can discover the combinations themselves. The first discovery is easiest when presented through concrete materials. Nor is one discovery enough. There must be many discoveries, not with one kind of concrete material alone, but with many; and not with a single situation presented many times, but with many situations presented many times. Then, in the end they may come to see the $3+5$ relationship in the abstract, to develop the generalization that $3+5$ always makes 8. Drill is inadequate to teach generalizations because it cannot supply the needed variety and number of meaningful experiences, but drill can be of real service later on, after the generalizations have been developed, as a means of fixing the verbal statements for permanent retention.

2. *Relationships.* Drill (repetition) contributes little to developing an appreciation of relationships. As a matter of fact, this characteristic of drill has been frequently cited as one of its principal virtues for arithmetic instruction. The day has by no means

departed when such pairs of facts as $3+6$ and $6+3$, and $8+4$ and $7+5$, were widely separated in instruction. The argument was advanced that each fact must be known independently and be subject to independent recall and use. Time was interposed between $3+6$ and $6+3$, and between $8+4$ and $7+5$. The second fact was not presented until the first fact had been learned. When the second fact was presented for repetition, it was presented in such a way as to minimize the chance of its being related to the first fact.

When arithmetic is thus viewed as a mass of unrelated facts, each to be automatized by itself, it is small wonder that drill is the favorite instructional device. The repetition of $3+6=9$ is hardly likely to suggest $6+3=9$, particularly if the second fact is postponed long enough after the first. If, under these conditions, a child does discover the relationship between the two facts, the discovery can hardly be credited to drill, for it has been made in spite of drill.

There is now much less disposition than formerly to regard arithmetic as a host of isolated items. The very analyses of "types," "skills," "unit-skills," "cues," etc., reported by Brueckner, Knight, Judd, Monroe, Osburn, and others serve to emphasize the presence of relationships in arithmetic and the necessity of teaching these relationships if arithmetic is to become an effective instrument of thought. And yet, in spite of all this, drill, the method best adapted to a discredited conception of arithmetic, continues to be used uncritically for purposes which it cannot serve.

3. *Operations.* One last illustration must suffice to show why the very nature of arithmetic makes drill inappropriate for much of primary number. Consider the mathematical operations themselves. Suppose that the child memorizes $4+5=9$ through frequent repetition. How much insight does such practice and such mastery yield into the process of addition? What does the plus-sign mean to him? What can he know of the reason *why* 9 is the answer for $4+5$? Furthermore, what will it avail him to have at his tongue's tip all the other addition facts so memorized? Will the possession of these other facts,

memorized as was $4+5=9$, provide him with the understanding of addition which he did not get from $4+5=9$?

Unfortunately, the teacher of the primary grades is not often made to feel the effects of premature and excessive drill. The teachers in grade III and grade IV are ready enough to testify that something has been neglected in the teaching of primary number. They know well enough that their pupils are unable to use the facts they are supposed to have learned. They cannot solve simple problems. They do not know when to add or when to subtract. Why should they know? There is no $+$ sign, no $-$ sign, in the problem, and without these signs the children are lost.

CHILDREN'S REACTIONS TO DRILL

The teacher who relies too much upon drill does so on the assumption that the pupils will practice only the response she expects them to make. Her use of flash-cards, games, and other similar devices pre-supposes that they will react only and always by making certain prescribed responses. She rarely concerns herself about the way in which her pupils actually are thinking. If she should do so, she might secure enlightening information. She might discover, for example, why answers are sometimes so slow in coming and why they are so often wrong, even after continued drill.

The truth of the matter is that children soon reach the limit of the number of facts they can memorize and keep in order. It is their tendency, and a perfectly natural one, to seek and to adopt aids by means of which to organize what they are required to learn. Memorization is supplemented by counting, by guessing, and by breaking up difficult combinations into other facts already known. It is these activities, instead of the expected immediate recall, which account for the slow and erroneous responses. Assumptions and pre-suppositions to the contrary notwithstanding, children do not always repeat the number facts just as the drill exercises seem to require them to do.

THE PLACE OF MEANING IN ARITHMETIC

Arithmetic must be viewed as a system of quantitative thinking. To say this is to say

that the child does not know arithmetic until he has developed the ability to think precisely and easily in quantitative terms, or in other words, to react intelligently to quantitative situations, in and out of school.

Now the ability to think in quantitative terms requires a fund of arithmetical meanings. Without this fund of meanings the child cannot understand quantitative situations or react to them rationally. The point has been made and illustrated that drill and repetition are incapable of developing meanings and understandings. The reason is clear. One's meanings are rich and useful only to the degree to which one possesses a variety of appropriate reactions. Repetition of $3+6=9$, no matter how long or how frequent, is after all practice on only a single reaction. So long as the child is required merely to react to $3+6$ as presented orally or visually, there is some reason to expect him to react quickly and correctly with "9." Repetition equips him to react thus. But let him meet $3+6$ in other forms—in a verbal problem, in a concrete practical activity—and the appropriate "9" may not be forthcoming. Repetition has of course failed to furnish him the needed enriched meanings—or reactions.

THE VALUE OF DRILL

For the most part, the foregoing discussion has stressed the limitations of drill. It may

even have suggested that there is no place at all for drill in primary arithmetic. Such certainly is not the case. Repetition serves a useful function when properly used. That function is to increase facility, accuracy, and permanence in responses when meaning has been guaranteed by prior instruction. Its values may be illustrated more definitely:

After a pupil has learned the one-to-one correspondence of the number names to groups of objects, he should be drilled in counting.

After he has come to understand groups of objects as numbers, drill may then be used to increase his ease and speed in perceiving these groups.

After the pupil has generalized the number facts with meaning, there is a real need for drill. Drill improves his ability to recall the combinations and guarantees permanence in what has been learned.

After the pupil has learned the nature of computation by addition and subtraction, drill may be administered properly to increase proficiency in the operations taught.

In a word, while drill yields no insight into number and cannot make arithmetic meaningful, it does assist the pupil to form efficient habits of number manipulation and to keep these habits at a high level of usefulness. Used for these purposes, to which it is truly adapted, drill must always remain an essential feature in primary number instruction.



Childhood Education for 1935-1936

There will be two special issues of the Journal next year:

Guidance: Its Place in the Education of Young Children

Compiled by Dr. Gertrude Porter Driscoll, Research Associate and Specialist in Guidance, Child Development Institute, Columbia University.

The Language Arts

Compiled by Marjorie Hardy, Kindergarten-Primary Principal, Germantown Friends School, Philadelphia.

In addition there will be two series of continued articles; one on *Science in the Elementary Grades* and another on *Music for the Young Child*. These articles will deal sequentially with these two subjects, covering the age range from the three-year-old to the nine-year-old.

Changing Techniques in Teacher Training by Dr. Frank Baker, President of the Milwaukee State Teachers College, will be published in an early fall issue.

NEWS FROM HEADQUARTERS

MARY E. LEEPER

NEW A.C.E. BRANCHES

The record for new Branches for the year now stands at 31. Here are the two most recent ones: Madison Association for Childhood Education Secretary, Eloise McVenes
Madison, South Dakota
Alhambra Kindergarten Primary Club
Treasurer, Harriet Obee
616 N. Stoneman Avenue, Alhambra, California

A.C.E. MEMBERS AND RECEIPT CARDS

Are you coming to the A.C.E. Convention at Swampscott and have you hunted everywhere for your membership receipt card without success? Then here is good news. You will not need your receipt card. A new registration plan will be used and if your contributing membership dues of \$1.00 have been paid just tell the person at the registration desk your name and she will hand you a registration card with your name and address already stamped upon it.

Delegates from Branches will present cards previously sent to the President of the Branch as their registration credential.

Branch members who are not delegates or contributing members, like non-members, will register by paying dues of \$1.00 at the desk marked "Pay Dues Here."

STUDENTS AND CONVENTION EXPENSES

Miss Hackebarth, Chairman of Alumnae and Student Groups, suggests a practical "expense budget" for students attending the Convention:

Room in "student houses" \$1 per night	\$4.00
CHILDHOOD EDUCATION Luncheon....	2.00
Shore Dinner.....	2.50
Other Meals.....	5.50
Registration fee, special to students..	.50

\$14.50

New England students will act as ushers and pages, and a large student's chorus from Boston and vicinity will sing at the first general session. If you wish further information, write to Elsa M. Hackebarth, 229 St. Paul Street, Brookline, Massachusetts.

INTERESTING GRADUATION GIFT

A member of an A.C.E. Student Branch writes that she will attend the Convention at Swampscott and that the trip will be a graduation present from her parents. A good idea for other students to pass along to their parents.

GOOD NEWS FROM PHILADELPHIA

Advancement, not retrenchment, in education for young children is the policy of the public school system of Philadelphia where Julia Wade Abbot is Director of Kindergartens. Since February, two new kindergartens have been opened and Etta Anchester has been appointed as Supervisor of Kindergarten Education to fill the place made vacant by the retirement of Miss Virginia E. Jacobs.

COOPERATION IN MILWAUKEE

It was found necessary in Milwaukee to close the schools to all children under seven years of age for several weeks because of epidemics of scarlet fever and measles. One of the newspapers donated two fifteen-minute radio periods on regular school days and teachers from the schools broadcast programs for the kindergarten children at 10:15 in the morning and for primary children at 4:30 in the afternoon.

Another newspaper printed a special page for these children on each school day. These pages were worked out by an experienced progressive teacher.

VACATIONING AT VASSAR

The Vassar Summer Institute of Euthenics for the study of the family will hold its tenth anniversary session from June 26 to August 7, 1935, offering to parents and teachers a real vacation as well as a time for study. Two schools for children from two to eight years of age will enroll youngsters whose parents attend the six weeks session. For information write to the Summer Institute of Euthenics, Vassar College, Poughkeepsie, New York.

Have you sent Dr. Zirbes your report from *Curriculum Trends*, pages 25-26?

BOOK REVIEWS

Editor, ALICE TEMPLE

A six volume book shelf for kindergarten-primary teachers.—Here is a set of books¹ which, according to the publishers presents "a comprehensive plan for professional self development." Certainly many a teacher who has access to these books and can in some measure make use of their accompanying bibliographies, will find the study extremely profitable.

The first three volumes constitute an anthology of literature for children. The *Book of Verse* is a representative collection of some of the early as well as the more recent poems which children have enjoyed and which students of children's literature have found good. The only outstanding writer of verse for children who is not represented is A. A. Milne. One wishes it had been possible to include something from the much beloved *Christopher Robin*, or *Now We Are Six*. One would like also to find a larger number of poems and a more conservative use of illustration. Unquestionably children enjoy pictures in their books but it is possible to illustrate so profusely that little is left to the imagination. The stories in Volumes II and III exemplify a wide variety of types. About one third of the entire number belongs to the traditional class—folk tales, fables, myths and legends, and Bible stories—and are representative of the best of each type. The remaining two thirds are modern stories written by many different authors. Among them are animal stories, "experience" stories, holiday stories, stories of our own and other countries and "glimpses of famous people." Some of the authors whose stories are found here are Kurt Wiese, Peggy Bacon, Alice Gall and F. W. Crew, Anna Sewell, May Hill Arbuthnot, Rose B. Knox, Alice Dalgliesh, Cornelia Meigs and others equally well known.

The second group of three volumes has been prepared for the teacher. Professor Patty Smith Hill states in her introduction to these volumes, "Perhaps it is fair to say that *Childcraft* brings to the classroom of the individual teacher the best advice and counsel of outstanding leaders in the teaching field." (Vol. IV, p. 13) A glance at the list of contributors would seem to bear out this

statement. Most of them are well known through previous contributions to the literature of education.

Volume IV, *Teachers' Problems*, deals with matters which vitally concern every teacher. There are excellent articles dealing with discipline; emotional problems; the unusual child; character development; the place and limitations of tests, records and reports, and other significant problems.

Better Teaching is the title of the book in which each of the fifteen specialists has discussed one important subject or activity of the kindergarten-primary curriculum such as reading, social studies, spelling, handwriting, art, music, physical education and all the others. The many photographs showing children at work and products of their activity add greatly to the interest and value of the context. One cannot be enthusiastic, however, about the numerous illustrative drawings in the pages of this book. To take a chance example, there appears in the five articles on arithmetic a drawing of a boy seated at a table with two groups of small splints before him. Standing by is a not too intelligent looking teacher. The caption below the sketch reads, "The physical performance of the operation of addition helps to clarify the idea for the child." Doubtless it does but no teacher needs any such illustration to clarify or even emphasize the idea for her.

The last book of this set of six, *Activity Units*, contains some fifteen descriptions of units of work in social and natural science which have been used with success in the classroom. Among them we find units entitled Community Life, The Farm, Study of Food, Shelter, Transportation, Indian Life, Children of Other Lands, Library and Literature, Gardens, Animals and many others. They are organized according to a somewhat general plan which includes a brief introduction relative to the interests of children in the material and its significance for them, a statement of the aims and objectives, suggestions as to ways of introducing the unit, general activities through which it is developed, the extent to which each of the school subjects is involved and suggestions as to possible ways and means of testing the un-

¹ *Childcraft*. Chicago: W. F. Quarrie and Company, 1935.

derstanding, information and skills acquired through the study. The units are so written for the most part that they may be adapted to different primary grade levels.

In some instances the objectives listed seem too general to have much significance or they are too ambitious. One is impressed, too, with the long list of possible "approaches" to a given unit, in some cases often far-fetched. It is evident that the teacher has in mind exactly what she wants but feels that she must get at it through some chance word or act of a child, or through some elaborate "setting of the stage" on her part. It is a relief to read in other cases of more simple and direct approaches. On the whole, however, there is much excellent material here of very practical value to the teacher who is able to adapt it with intelligence and originality to the interests and needs of her own children.

Accompanying this set of six volumes is the *Childcraft Art Book*, a most unusual and beautiful production prepared by Jessie Todd and Ann VanNice Gale. It is planned to supplement and illustrate much of the material in the teachers' three volumes, especially the articles on art, social science and the activity units. Attractive drawings show many of the projects in construction that are phases of the social science program. Several pages are devoted to showing steps by means of which children may be helped in learning to draw the human figure, certain animal and plant forms, and other typical objects. The authors make it perfectly clear, however, that such help is to be given when the children are conscious of a need for some guidance and is always to be accompanied by ample opportunity for free spontaneous expression. The final pages of this interesting book show exact reproductions in color of designs and pictures made by children who have been taught according to the methods exemplified. It would seem that this book should be tremendously helpful to any teacher of young children who wants to do more than leave them to their own unguided efforts in drawing, painting and modeling after the first year or two of school life.

The first year of life.—Babies are rarely observed. They are frequently seen and heard and their gain in weight and the development of desirable habits is a matter of constant concern, but they must do something unusual to be noticed and even such exceptional behavior is not observed with any great exactness and certainly not impartially. Even when psychologists, inspired by the possibilities of a behavioristic approach.

began to observe babies they doubted their own ability to be entirely free from personal bias. So the tendency has been to record only those performances of babies which are so limited in scope that they may be described in detail and scored as success or failure as in a test. Our statistical facts of child development have accordingly piled up and we have been proud of our American scientific exactitude in this field as contrasted with European studies. Somehow the complete behavior of the normal child still escaped observation.

Dr. Gesell, however, for seven years has been observing healthy babies of all ages, recording by moving picture and by written report behavior which varied from child to child and most conspicuously *from age to age*. Finally, as the most significant outcome of his tireless amassing of data, there appeared clearly defined patterns of development which seemed typical or "normative" as he calls it. A recent book² describes the twenty-seven patterns he has found to be consistent. They range from supine and prone behavior between four and forty weeks to behavior when confronted with such common objects as a pellet, cubes, a cup and spoon, a crayon or a mirror, between twelve and fifty-six weeks. For the student of child psychology it is an invaluable record. For the parent whose interest is primarily practical it may seem rather heavy reading accentuated by Dr. Gesell's fondness for abstruse words. However, if one's baby is less than a year old and one has patience to observe him, as Dr. Gesell observed his 107, and in the light of the book systematically to watch the unfolding of some of these patterns, the development of that baby would indeed seem a far more interesting and significant phenomenon.

MARY A. M. LEE, M.D., Ph.D.
Chicago, Illinois

A dictionary designed for children.—Perhaps the one book of the year which should find a place in every elementary school classroom is the *Thorndike-Century Junior Dictionary*.³ Although this dictionary has been made especially for boys and girls from ten to fifteen years of age, younger children will be able to use it with some help from the teacher and even the teacher herself will enjoy so unusual a ready reference.

Professor Thorndike believes that definitions should be written in language which children can easily understand and adapted to their back-

² Arnold Gesell and Helen Thompson, assisted by Catherine S. Amatruda. *Infant Behavior, Its Genesis and Growth*. New York: McGraw-Hill Book Company, 1934, Pp. viii+343, \$3.00.

³ E. L. Thorndike. *The Thorndike-Century Junior Dictionary*. Chicago: Scott, Foresman and Company, 1935, Pp. x+970, \$2.00.

ground of experience. "We have not been satisfied to abbreviate and adapt definitions made originally for adults and for adults of much ability and knowledge," he says. "Definitions are not like clothes that can be cut down and made to fit. What has a clear and correct meaning to a well-informed adult may confuse and mislead a child." (p. iv) And so one finds the definitions in this dictionary to be simple, direct and phrased in children's language. They are generously illustrated with sentences in which the word defined is used or with pictures when these serve the purpose better than words. Some examples chosen at random characterize this dictionary better than anything that can be said about it. Following are two:

"primary. 1. First in time; first in order. Little children go to the primary school. 2. original; from which others are made. The primary colors are red, blue, and yellow. 3. chief; first in importance. Good health and character are primary. 4. a meeting of voters of a political party to choose candidates for office."

"buggy. a light carriage with one seat." This definition is accompanied by a picture of a typical horse and buggy of the nineties. The definition of automobile, on the other hand, carries no picture but there is an excellent one to illustrate airplane, our latest form of transportation, with all the parts clearly indicated and named.

The 23,281 words defined include, as one would expect, most of the 20,000 words of the author's famous *Word Book* plus 5000 additional words. The 1610 pictures are necessarily small but remarkably accurate and clear. Young children might enjoy going through some of the pages just for the sake of the pictures as they often do with a commercial catalogue.

The pronunciation key is that used in the Century Dictionary. The type is large and clear and the material well spaced thus minimizing the reading difficulties. Children who have struggled with the ordinary school dictionary should hail this one with delight.

Supplementary reading for social study units.—As reading material for children to use in connection with social study units in the elementary school, the *Unit Study Books*⁴ should be of wide interest. To date forty books have been published, ten for each of the four grades. Each book contains interesting factual material carefully adapted to the grade level for which it is written.

With the growing demand for reading material which will give children clear concepts and true understandings of the world about them, ele-

mentary teachers should find this series of great value. The editor, Eleanor Johnson, because of her wide knowledge of the problem of children's reading, as well as her interest in curriculum construction has, with the help of other authors, not only selected material wisely, but has skillfully adapted it to the interest and abilities of elementary children. An examination of the books reveals a careful study of the problem of vocabulary, sentence structure, and form as the content increases in difficulty from grade to grade.

These books, the size of pre-primers, are paper bound. For this reason they can be secured at a minimum cost. Photographs have been used to illustrate the context. When this has been impossible, pen sketches which appeal to children have been substituted. Because the paper is an inexpensive quality, some of the photographs are less distinct than is desirable. However, this is to be corrected in future printings. The books contain various methods for checking children's understanding of the material read. There are yes-no questions, completion exercises, and other forms of modern self-checks. The authors suggest places for children to visit, books to read, and language activities, as well as things to do in manual arts.

In each book there is an outline to guide the teacher in the development of the unit. It is gratifying to know that such accurate, worthwhile material can be secured in quantity for use in classrooms at such a reasonable cost.

MARY A. CAMERON
Western Reserve University

Informational books for late primary and intermediate grades.—The series of little books⁵ published under the general title, *Our Changing World Library*, "will present the life of the child the world over. It will present the stories of the past particularly in relation to the present; and will picture the complex industrial civilization in which we now live." The eight books which have been received by this department bear the following titles: *Candlelight*, *Our Electric World*, *Wires Round the World*, *Ship-a-Hoy*, *Liners and Freighters*, *Paddles and Propellers*, *How Men Have Kept their Records*, *The Thunder Bird*. Each story is by a different author and all are adequately illustrated. They range in length from 52 to 78 pages, are clearly printed and attractively bound, each with its own color. The information given in story form is accurate and interesting, in some cases really dramatic. The volumes of this library doubtless will be widely used.

⁴ Eleanor Johnson and others: *Unit Study Books*. Columbus, Ohio: American Education Press, 1934.

⁵ Rollo G. Reynolds, Editor. *Our Changing World Library*. New York: Thomas Nelson and Sons, 1934.

AMONG THE MAGAZINES

Editor, ELLA RUTH BOYCE

Child Study for April is devoted to the topic, "Planning for the Summer." The editorial page presents the subject as one which parents have been inclined to resent—namely, that children "do not find the long school vacation an unmixed blessing." But it is a problem that must be accepted. Their puzzled "why" is giving way to "what and where and how?" These questions this journal attempts to answer, recognizing that "a summer . . . in which nothing to do and no place to go had become characteristic . . . was by so much a sheer loss in children's lives."

J. W. Faust discusses "Home and Community as Vacation Assets" with practical suggestions as to what may be done by cooperation, by home-made playgrounds, by day trips, and by the organization of clubs and groups of various sorts. Two sentences are significant: "The family that plays together, stays together . . . the family with no play traditions is like a dead tennis ball—it looks well rounded but it has no bounce and no come-back."

The vacation programs of various organizations such as the National Recreation Association, Young Women's Christian Association, Jewish Welfare Board, Boy Scouts of America, Girl Scouts, Pioneer Youth, and Camp Fire Girls are outlined.

Parents Magazine for April prints an editorial by Muriel W. Brown of the National Council of Parent Education on "Parent Education Blazes New Trails." It deals with the place of parent education in the program of the Federal Emergency Relief Administration. One of the most interesting phases of this movement is the cooperative effort which has characterized it. National, state, and local organizations, state and local school and relief officials, and a foundation through its funds have all worked together. Thirty-one states have participated, and three types of need have been met: "first, employment for men and women qualified by training and experience to give a particularly useful kind of public service. Second, it has provided a rich variety of opportunities for parents to grow wiser in the ways of parenthood by studying in groups, counseling with experts, or participating

in situations in which they 'learn by doing.' Third, it has also provided an opportunity for public school administrators to experiment with a phase of adult education for which there is a growing demand and about which there is, at present, relatively little recorded experience." As a result it is stated that "participation in emergency parent education activities has helped parents and teachers in many communities to think more clearly, more independently, and more effectively about child development, about human relations, about homemaking and family life."

This issue of *Parents* is particularly rich in practical suggestions: "How Much Obedience?" by June S. Larsen; A Symposium and a Doctor's Statement on "How Parents Handle the Smoking Problem;" "Are You Training your Child to be a Nuisance?" by Jean Wickham; "For Fathers Only" by Hiram Motherwell; and "A Mother's Conquest of Fear," by Helen L. Schulz, all offering help with specific problems.

The Elementary School Journal for March prints a list of "Selected References on Preschool and Parental Education" compiled by Florence L. Goodenough of the University of Minnesota. This is a continuation of bibliographies published in 1933 and 1934 and "includes some of the more important publications that appeared during the period from December 1, 1933, to December 1, 1934." They are listed under "Technical and Experimental Studies" and "Non-Technical Books and Articles Primarily for Parents, Teachers, and Workers in the Field of Parent Education." Each one is given a brief annotation.

The New Era in Home and School devotes its March issue to "New Methods in Junior and Elementary Schools." The "Outlook Tower," which is the title of its editorial page introduces this special subject with a brief review of the change which has come in the last quarter of a century in the content of instruction and in the methods of imparting it. The general trend of teaching has been profoundly influenced by what has been done by the many pioneers through critical appraisal and experimental efforts. This comment is, however, interesting: "But it is still something of a jig-saw puzzle. One teacher may

introduce rhythmic exercises here; elsewhere another concentrates on music or drama, and a third finds new ways of teaching crafts. Their enthusiasm is vivid, stimulating, infectious; and so the leaven of their ideas gradually spreads throughout the school. Slowly, the parts of the jig-saw are being fitted together and a definite pattern of modern teaching is emerging which must, in its turn, shape the teaching of the future.

"There are three main, definite and outstanding changes in modern educational practice. In the first place, we now see that we must educate the whole child, not just his mind, but his body and his spirit. . . . Secondly, the subject matter of the curriculum should be linked with life. . . . but the biggest change of all is the change of attitude towards the children we teach. It is based on the new psychology which helps us to see each child as an individual whom we must respect, without striving to mould him to our pattern." In summary, "New techniques, new curricula, new methods are all a part of modern education, but the essence of it is a new spirit, a spirit which if spread, will bring the dawn of a new age."

Several articles in this issue are descriptions of actual school work, under such titles as: "Play Making in a Junior School" by D. M. Tempest; "Learning Through Play" by E. R. Boyce. There is also a description of the "Elementary Rural Schools in Italy" by Alessandro Marcucci. Katie Daniell writes on "Emotion, the Driving Force of Life." This is a description of how "Life in a free, experimental school gives one a unique opportunity of seeing children as they are, rather than as they think we want them to be." She tells us how "Certain facts emerge as we watch the children at work; and we begin to feel that for years we have been over-anxious about quite the wrong things in so-called education." In summary she says: "And so we have come to realize:—

1. That if the child so desires, he will learn all he is capable of learning; if he sets himself against it, he is virtually incapable because he refuses to identify it with himself.

2. The significance of what a child does because he wants to and what he does not do.

3. The overwhelming power of the unconscious craving for love and activity.

4. The importance of the question whether, if the unconscious desires to love and be active are sufficiently satisfied, future mal-adjustment may be avoided.

5. Any censure necessary for total well-being

of a group should be used as positive praise of the desirable because it creates pleasure and stimulates effort.

6. Feelings should be allowed expression, thereby strengthening the flow of energy and accumulating strong conations.

7. We must learn to relieve children from the pressure of adult opinion, although it is difficult to control our own temperament. It is necessary for the teacher to learn to efface herself as much as possible, so that she does not pass on her weaknesses nor her idiosyncrasies to the child.

8. Unless we give children an element of choice in their activities, we are not giving them full opportunities of growth, because if they are working under coercion, anything they do is done without spirit, and energy is wasted in resistance and subconscious desire. But, if they have chosen their job, they do it with the whole of themselves, and thereby is set up a habit of vigorous work and thought."

Child Development, in its quarterly number issued in March, prints an article on "The Problem of Child Development" by L. K. Frank. This is a reprint from a paper read before the Society for Research in Child Development in November, 1934. The author gives its purpose as "an attempt to state the problem of *child development* as a focus for scientific research and to set forth somewhat briefly the methods which initially may be employed in its study. Finally, an effort will be made to indicate the significance of this problem and its relation to various scientific enterprises in the field of medicine, psychiatry, and hygiene." He points out that the human child as "a developing organism with a prolonged infancy" presents peculiar problems as an object of scientific study. He suggests that "Each of the changing structures and functions of the growing organism yields, or may be made to yield, data which reveal directly or indirectly what is taking place therein. Consequently, the growth and development of a child may be studied through the application of all relevant scientific techniques to the individual child and the collection thereby of the various data indicating these changes in the structures and functions of that child." These data will fall into two classes—structural characteristics and functional activities—of two kinds—internal processes and overt activities. "Recalling that the human infant is at birth incomplete in structure and function and not yet integrated, we may see that the maturity of the human organism involves the attainment to a more or less 'steady state,' as contrasted with the instability found in the infant and child. This task

of achieving maturity, both structurally and functionally, states the problem of child development and indicates the technique for its study."

The article further develops the idea of the necessary study and says: "The problem of child welfare may be viewed as the discovery of a technique for child care whereby we may try to synchronize the various changes through which the child must pass on his way to adulthood so that he may achieve maturity with the least amount of asymmetrical and uncoordinated development. It may be pointed out in passing that for the most part our notions of child hygiene are by-products of diagnostic and therapeutic work, and thus far we have little experimental basis for child hygiene. Approaching the problem of child hygiene and child welfare with this concept of development and along these suggested lines of procedure, we see that there is presented an extraordinarily rich and unexplored field of experimentation—namely, to discover and to work out into practicable form the techniques of child care suitable to each of the varying classes or types of children and adapted to the varying needs and requirements of the different periods of the child's development."

In this same issue Elizabeth E. Olney and Hazel M. Cushing write "A Brief Report of the Responses of Preschool Children to Commercially Available Pictorial Materials." Thirty-six children were the subjects—twelve who were four years old; twenty-two who were three years old, and two younger than three years. Sixteen sets of pictures were used—four in each set similar in size, content and treatment—nine colored and seven not colored. They presented toys in color and not colored; animal activities in color and not colored; silhouettes in color and in black and white; a set of complex compositions, such as children singing, in color; mechanical subjects with the human element, in color; photographs of everyday objects; the same object with a human element; child activities in color and not colored; small animals in color and not colored; large animals in color; and a set of mechanical vehicles in color.

The time spent in looking at each picture was the objective measure used. The results are given, and the following comments made: "In spite of

the fact that the number of cases involved in the study was not large certain trends stand forth rather clearly with the particular group of children concerned. Mechanical objects had a high interest value in terms of the criterion. The introduction of the human element whether of adults or children enhanced the value of all types of pictures. Animals, whether portrayed individually or in groups, came surprisingly low on the scale . . . In checking picture books in the homes of the children who served as subjects in this study, it was found that over three-quarters owned animal books, while but one-quarter had access to pictures of mechanical objects and that fewer still had pictures involving children and everyday objects and experiences. Books of all these various types, however, were available to the children in the nursery school environment . . . Complexity of detail and even fantastic treatment did not seem to be a bar to interest, providing the picture had inherent dramatic quality. Background or lack of background did not seem to be a determining factor in the amount of time spent in looking at a picture even with the youngest children. When 5 colored sets were compared with their uncolored counterparts, it was found that color enhanced the interest value of the pictures to a considerable degree. Silhouettes, despite their artistic merit, at least for the child of nursery school age, would seem to have less attention value than other types of treatment. Comparing scores for large and small animals it was found that the former are more potent from the child's point of view.

"In the light of these tentative conclusions, the value of any picture book for the young child should not be minimized. Many books are particularly valuable as incentives to the development of vocabulary, where the adult points out the object and gives the appropriate word. It is probable, however, that a desirable procedure would be that in which first-hand experiences preceded the introduction of pictures built around those experiences and that as the activities of the child expand in scope, new pictorial material might well be introduced which would serve to recall and vivify the experience. Actually such does not seem to be the common practise either at home or at school."

RESEARCH ABSTRACTS

Editor, ELIZABETH MOORE MANWELL

Can Young Children be Helped by Training to Sing? A very clear cut and thoughtful study on the wisdom of vocal training for children is offered by Jersild and Bienstock of the Child Development Institute of Columbia University in a recent publication.¹

In their investigation the authors tested 407 children from two to ten years old and 65 adults, and then studied the effect of training in vocal reproduction of pitch in a special group of 23 children, ranging in ages from three to eight and one-half years.

In giving the tests the experimenter sounded and sang individual tones and then asked the subject to sing them, each subject being tested three times on as many different days. It was found that the children could sing a wide range of tones, as compared with adults, at a relatively early age. The median number of tones sung by the children at each respective age level from two to ten years was as follows: 4, 6, 9, 9, 14, 13, 5, 15, 16, and 16, while the median adult score was 20. Some of the children were able, as young as the age of four, to reproduce as many tones as the average adult, although this did not necessarily mean that these children could utilize the tones in singing as well as the adults. The girls sang a larger number of tones than the boys did at several age levels, but the difference in each instance was not large enough to be statistically significant. The study also showed that young children are able to sing tones lower in pitch than have been suggested in manuals dealing with the musical education of young children.

After studying the effects of training the group of 23 children, who received individual and group practice during 38 periods ranging in length from 20 to 30 minutes distributed over a span of six weeks, it was found that the children made an average gain of over 30 per cent in the number of tones they could sing, and that with appropriate training a child might be enabled to add many tones to his repertory. In particular it was noted that marked changes could be seen in the be-

havior of children who appeared to be shy and inhibited when the project began, and that having frequent contact with singing, especially with other children who were singing, was helpful. It also appeared that singing in a group, and thus having a chance to sing without being conspicuous, was helpful to the child in learning to make full use of his voice in the presence of others. This, in time, seemed to help him in making the transition to singing alone.

One case is cited of a little three-year-old girl who had a lower speaking voice than most children of her age, who was able to use only three very low tones on her first singing test and whose mother was becoming concerned over her apparent inability to sing. But after the training began she appeared to "find" her voice for higher tones and began to improve rapidly in singing high notes. At the end of the six weeks she earned next to the highest score in the group of 36 children who were tested at that time. The authors point out that while the change in this instance *might* have been due to chance factors alone or *might* have come about at a later time regardless of a training period, nevertheless a "case such as this does suggest that a particular child's limitations may be due in part to lack of practice rather than to lack of ability and that special training at an early age may help the child to forestall the habit of using only a limited part of his potential tonal range."

The authors conclude: "The results in an earlier study showed that children who received training maintained a statistically reliable advantage over initially equivalent control subjects for a period of several months after the termination of practice. Limited data in the present study suggest that the benefits accomplished by special training during a brief period of six weeks may lead to improvement that is apparent after two years. . . . Further study is needed to tell how permanent such gains may be and to answer more precisely the question as to what is the most strategic time to begin a child's training in singing. It is possible that a child who is encouraged to sing at an early age may acquire a degree of skill that could not be acquired if this training

¹ Arthur J. Jersild and Sylvia F. Bienstock. "A Study of the Development of Children's Ability to Sing," *Journal of Educational Psychology*, October, 1934, 25: 481-503.

were deferred until later years. . . . The findings in this study strongly suggest that singing is one performance that might well be selected for emphasis in the education of young children."

This conclusion, however, is based upon the understanding that the training in singing thus suggested be of a wholesome kind. As a result of their observations made during the training of the children the authors make the following recommendations for musical education: At the beginning of training it is best to introduce songs that are well within the child's tonal range. When a child does not seem able to sing, this may mean that the song being tried is not suited to his voice and that it should be transposed to a higher or lower key. If the child has only a limited tonal range, chromatic intervals should be introduced in order to provide greater variety and in order to avoid too much monotony in the materials he is asked to sing. After his cooperation has been won, the songs used for the purpose of training should include not only the tones which are within the child's range but also a few tones which hitherto he has been unable to reproduce, although the former should be the more numerous.

It is recommended that with preschool children songs be used sometimes which deal with and are accompanied by activity—such as putting the baby to sleep or imitating animals. Monosyllabic rather than polysyllabic words are recommended for the songs of very young children so that their emphasis may be more on the tune than on the mastery of words. With children who can sing a wide range of tones it is best to introduce songs incorporating a wide range of tones, and with capable singers, songs having a variety of wide as well as narrow intervals.

How Shall We Select Pictures for Children? The University of Chicago² presents a study of children's preferences for pictures in the primary grades.

² Jeanette Gertrude Morrison. *Children's Preferences for Pictures Commonly Used in Art Appreciation Courses*. Chicago: The University of Chicago Press, 1935, Pp. 57.

The first step of the investigation was a careful analysis of sixty-five graded picture study lists including over 600 different subjects. These pictures were classified according to frequency of mention by authorities and then divided into five subject-matter groups as follows:

1. Religious pictures
2. Animal pictures
3. Nature pictures
4. Historical, allegorical and related subjects
5. Pictures of children

Of the forty pictures having a high frequency of mention in the published lists and representative of the five groups miniature copies were prepared and presented on large mountings to each of 500 children in the first three grades. Each child was asked to select five out of the forty which he liked best. Among the results are the following:

1. The primary children tended to like a much broader range of pictures than is frequently recommended for use in the primary grades.
2. In general the boys favored the action type of picture represented in ship, animal and historic pictures, while the girls favored the non-action type represented in religious, pet, and childhood pictures.
3. When a five-fold classification was used the children expressed a general preference for the specific pictures in the following rank order:
 - a. Religious
 - b. Animal
 - c. Nature and color
 - d. Historical, allegorical and related subjects
 - e. Childhood pictures
4. Interest in picture types shifted from grade to grade.
5. The story interest was the factor most frequently mentioned by the children as reason for choice and this is therefore an important element to be considered along with artistic quality when organizing primary grade picture lists.



Sixth Biennial Conference of the National Association for Nursery Education

St. Louis: October 31–November 2, 1935. Headquarters: Hotel Statler.

Harold H. Anderson, Chairman of the Program Committee

Philip J. Hickey, Chairman of the Local Committee

Study Classes, Group Conferences, General Meetings with a Forum on Nursery Education.

Index to Volume XI

ALPHABETICAL INDEX

1934-1935

Abernathy, Evelyn; Denny, Ruth I. and Joslin, Jane E.—Why Not China?	March	265
Advancing Toward the Activity Curriculum—Franklin Bobbitt	January	147
Air-Minded Seven-Year-Olds—Kathryn Canisius	April	311
Allen Marie L.—Mass Production of Health in the U.S.S.R.	February	216
Altstetter, Mabel F.—Experimenting in a One-Room School	April	308
Among the Magazines—Ella Ruth Boyce	40, 89, 137, 186, 236, 281, 329, 376, 421	
Anderson, Harold H.—Emergency Nursery Schools	October	11
Arithmetic Meanings—Amy J. DeMay	June	408
As a Parent Sees Child Health—Helen E. Hanford	February	227
Barnard, Raymond H.—Speech in the Elementary School	March	271
Baruch, Dorothy W.—The Value of Nursery School Experience for Teachers in Other Fields	January	175
Bobbitt, Franklin—Advancing Toward the Activity Curriculum	January	147
Book Reviews—Alice Temple	37, 86, 134, 183, 234, 278, 326, 374, 418	
Bott, Helen M.—Contrasting Disciplines of Home and School	February	205
Boyce, Ella Ruth—Among the Magazines	40, 89, 137, 186, 236, 281, 329, 376, 421	
Bristol, Ruth L.—Thanksgiving—The Making of a Festival	November	68
Buckingham, B.R.—When to Begin the Teaching of Arithmetic	May	339
Bush, Mildred—A Second Grade's Story of Lights	December	114
Butler, Sophie, and Marble, Sarah—How New England Organized for the A.C.E. Convention	March	275
Campbell, Elise H. and Tyler, Dorothy—A Recreational Program for Children From Five to Fifteen	October	22
Canisius, Kathryn L.—Air-Minded Seven-Year-Olds	April	311
Challenge to Thinking, A—Grace Langdon	January	160
Charters, Jessie A.—The Responsibility of Nurses and Doctors for Health Education	February	219
Children's Experiences with Form in Nature—Bertha Stevens	April	322
Children's Experiences with Stars—Bertha Stevens	December	104
Coit, Lottie—Music in the Nursery School	December	125
Comparisons of Teaching in Nursery School, Kindergarten and First Grade— Grace Langdon	November	51
Conard, Edith U.—The Growth of Manuscript Writing in the United States	December	107
Conard, Edith U.—The Growth of Manuscript Writing in the United States	January	170
Contrasting Disciplines of Home and School—Helen M. Bott	February	205
Davis, Mary Dabney—Young Children in Western European Countries	January	152
Dawe, Helen C. and Foster, Josephine C.—Fatigue and Rest in the Kindergarten	February	211
—The Kindergarten Rest Period	March	268
Deans, Edwina—Materials and Methods	May	359
DeMay, Amy J.—Arithmetic Meanings	June	408
Denny, Ruth I.; Joslin, Jane and Abernathy, Evelyn.—Why Not China?	March	265
Denver Third Grades Play "Injuns"—Helen R. Gumlick	October	17
DeWeese, A. O.—The Importance of the Teacher in the Health Education Program	February	195
Dobbs, Ella V.—Overcrowding the Primary School	January	159
Easter—A Festival Time for Children—Adelaide Linnell	April	295
Edmund, Rose L.—An Experiment in Report-Card Making	March	249
Emergency Nursery Schools—Harold H. Anderson	October	11
Emergency Nursery Schools in New York City—Jessie Stanton	November	77
Emergency Nursery Schools on Trial—George Stoddard	March	259
Engleman, F. E.—Facts Regarding Aviation and Some of Its Possibilities as a Unit	April	317
Ernstene, A. Carlton—Heart Disease in Childhood	February	209
Establishing Nursery Schools in Puerto Rico—Amy Hostler	December	131
Experiment in Report-Card Making, An—Rose L. Edmund	March	249
Experimenting in a One-Room School—Mabel F. Altstetter	April	308
Facts About Emergency Nursery Schools—Grace Langdon	March	255
Facts Regarding Aviation and Some of Its Possibilities as a Unit—F. E. Engle- man	April	317

Fatigue and Rest in the Kindergarten—Helen C. Dawe and Josephine C. Foster	February	211
Forty-second Annual Convention	April	324
Foster, Josephine C. and Dawe, Helen C.—Fatigue and Rest in the Kindergarten	February	211
—The Kindergarten Rest Period	March	268
Function of Toys, The—Ethel Kawin	December	122
Groth, Alice—Sex Education—A Factor in Mental Health	February	223
Growth of Manuscript Writing in the United States, The—Edith U. Conard	January	170
Gumlick, Helen R.—Denver Third Grades Play "Injuns"	October	17
Hahn, Julia L.—Mother Learns About Reading Readiness	October	8
—Mother Learns More About Reading Readiness	November	81
—Reading Readiness in Beginning First Grade	December	129
—Reading Readiness in Third Grade	January	179
Hanford, Helen E.—As a Parent Sees Child Health	February	227
Headley, Neith E.—Travel: Education::Education:School	October	12
Heart Disease in Childhood—A. Carlton Ernestene	February	209
Hill, Patty Smith—Some Uses and Abuses of Christmas Festivities	December	99
History and Geography in the Primary Grades—Bessie K. Lacy	November	73
Hockett, John A.—The Primary School of Tomorrow	June	396
Hodson, Ruth—A School in the Out-of-Doors	October	3
Hostler, Amy—Establishing Nursery Schools in Puerto Rico	December	131
How New England Organized for the A.C.E. Convention—Sarah A. Marble and Sophie E. Butler	March	275
How to Establish an Integrated Activity Program—Frederick Pistor	April	300
I Am Four Years Old Today—Ruth Perry	November	58
Illman, Adelaide T.—The Teacher's Opportunity in the Present Crisis	October	21
Importance of the Teacher in the Health Education Program, The—A. O. DeWeese	February	195
Inclusiveness and Continuity in Educational Progress—William H. Kilpatrick	June	387
Index for Volume XI	June	426
Instructional Materials for Teachers of Arithmetic—Marion Stevens	May	371
Joslin, Jane E.; Denny, Ruth I. and Abernathy, Evelyn—Why Not China?	March	265
Kawin, Ethel—The Function of Toys	December	122
Keliher, Alice V.—What About Progressive Education?	March	243
Kent, Blanche—Procedures in Beginning Reading	March	262
Kilpatrick, William—Inclusiveness and Continuity in Educational Progress	June	387
Kindergarten Pays, The—R. Stewart MacDougall	October	29
Kindergarten Rest Period, The—Helen C. Dawe and Josephine C. Foster	March	268
Lacy, Bessie K.—History and Geography in the Primary Grades	November	73
Langdon, Grace—Challenge to Thinking, A	January	160
—Comparisons of Teaching in Nursery School, Kindergarten and First Grade	November	51
—Facts About Emergency Nursery Schools, The	December	107
—Facts About Emergency Nursery Schools, The	March	255
Leeper, Mary E.—News from Headquarters 35, 84, 133, 182, 233, 277, 325, 373, 417	April	295
Linnell, Adelaide—Easter—A Festival Time for Children	June	405
Logan, Geneva A.—My Shadow	February	230
Looking Forward in Health Education—Mildred Miller	October	29
MacDougall, R. Stewart—The Kindergarten Pays	May	344
MacLatchy, Josephine—Number Abilities of First-Grade Children	May	348
MacLaughlin, Katherine—Number Ability of Preschool Children	November	64
Making Kindergarten Values Known—Elizabeth Webster	44, 92, 140, 188, 238, 284, 332, 379, 424	
Manwell, Elizabeth Moore—Research Abstracts	March	275
Marble, Sarah A. and Sophie Butler—How New England Organized for the A.C.E. Convention	February	216
Mass Production of Health in the U.S.S.R.—Marie L. Allen	May	359
Materials and Methods—Edwina Deans	April	291
Meek, Lois Hayden—Why Nursery Education?	February	230
Miller, Mildred M.—Looking Forward in Health Education	November	71
Morgan, Joy Elmer—Taking the Schools to the People	October	8
Mother Learns About Reading Readiness—Julia L. Hahn	November	81
Mother Learns More About Reading Readiness—Julia L. Hahn	December	125
Music in the Nursery School—Lottie E. Coit	June	405
My Shadow—Geneva A. Logan	June	400
Myers, Garry Cleveland—Where Shall I Live?		

NEA Research Bulletin—Major Trends in Public Education	January	181
News From Headquarters—Mary E. Leeper	35, 84, 133, 182, 233, 277, 325, 373, 417	
Number Abilities of First-grade Children—Josephine MacLachy	May	344
Number Ability of Preschool Children—Katherine McLaughlin	May	348
Overcrowding the Primary School—Ella V. Dobbs	January	159
Perry, Ruth—I Am Four Years Old Today	November	58
Pistor, Frederick—How to Establish An Integrated Activity Program	April	300
Polkinghorne, Ada R.—Young Children and Fractions	May	354
Primary School of Tomorrow, The—John A. Hockett	June	396
Procedures in Beginning Reading—Blanche Kent	March	262
Reading Readiness in Beginning First Grade—Julia L. Hahn	December	129
Reading Readiness in Third Grade—Julia L. Hahn	January	179
Recreation Program for Children From Five to Fifteen—Elise H. Campbell and Dorothy Tyler	October	22
Research Abstracts—Elizabeth Moore Manwell	44, 92, 140, 188, 238, 284, 332, 379, 424	
Responsibility of Nurses and Doctors for Health Education, The—Jessie A. Charters	February	219
School in the Out-of-Doors, A—Ruth Hodson	October	3
School Physician Studies Contagious Diseases, A—Theodore S. Wilder	February	199
Science and Poetry—Bertha Stevens	June	403
Science vs. Sciences in the Elementary School—Bertha Stevens	November	55
Second Grade's Story of Lights, A—Mildred Bush	December	114
Sex Education—A Factor in Mental Health—Alice Groth	February	223
Simpson, Gladys V.—A Unit of Work on China	January	163
Speech in the Elementary School—Raymond H. Barnard	March	271
Social Arithmetic in the Early Grades—Marion J. Wesley	May	367
Some Uses and Abuses of Christmas Festivities—Patty S. Hill	December	99
Stanton, Jessie—Emergency Nursery Schools in New York City	November	77
Stevens, Bertha—Children's Experiences with Form in Nature	April	322
Stevens, Bertha—Children's Experiences with Stars	December	104
Stevens, Bertha—Science and Poetry	June	403
Stevens, Bertha—Science vs. Sciences in the Elementary School	November	55
Stevens, Marion—Instructional Materials for Teachers of Arithmetic	May	371
Stoddard, George—Emergency Nursery Schools on Trial	March	259
Stretch, Lorena B.—The Value and Limitations of Drill in Arithmetic	June	413
Swing Back, Then Forth, A—Catharine Watkins	December	120
Taking the Schools to the People—Joy Elmer Morgan	November	71
Teacher's Opportunity in the Present Crisis, The—Adelaide T. Illman	October	21
Temple, Alice—Book Reviews	37, 86, 134, 183, 234, 278, 326, 374, 418	
Thanksgiving—The Making of a Festival—Ruth L. Bristol	November	68
Travel: Education:: School: Education—Neith E. Headley	October	12
Tyler, Dorothy and Campbell, Elise—A Recreational Program for Children From Five to Fifteen	October	22
Unit of Work on China, A—Gladys V. Simpson	January	163
Value and Limitations of Drill, The—Lorena B. Stretch	June	413
Value of Nursery School Experience for Teachers in Other Fields—Dorothy W. Baruch	January	175
Watkins, Catharine—A Swing Back, Then Forth	December	120
Webster, Elizabeth—Making Kindergarten Values Known	November	64
Wesley, Marion J.—Social Arithmetic in the Early Grades	May	367
What About Progressive Education?—Alice V. Keliber	March	243
When to Begin the Teaching of Arithmetic—B. R. Buckingham	May	339
Where Shall I Live?—Garry Cleveland Myers	June	400
Why Not China?—Ruth I. Denny, Jane E. Joslin, Evelyn Abernathy	March	265
Why Nursery Education?—Lois Hayden Meek	April	291
Wilder, Theodore S.—A School Physician Studies Contagious Diseases	February	199
Young Children and Fractions—Ada R. Polkinghorne	May	354
Young Children in Western European Countries—Mary D. Davis	January	152

CHILDCRAFT*

For Nursery, Kindergarten and Primary Teachers

These EDITORS OF CHILDHOOD EDUCATION

and active members of the Association for Childhood Education are
CONTRIBUTORS TO

CHILDCRAFT

MAY HILL ARBUTHNOT

WINIFRED E. BAIN

BERTHA BARWIS

WILLIAM BROWNELL

MILDRED B. BUSH

GENEVIEVE L. COY

ALICE DALGLIESH

MILDRED ENGLISH

LUCY GAGE

MERLE GRAY

MARJORIE HARDY

NIETH E. HEADLEY

ERNEST HORN

ELMA NEAL

ADA R. POLKINGHORNE

MARY O. POTTENGER

GRACE E. STORM

MARION VAN CAMPEN

JENNIE WAHLERT

MARGUERITE WILKER

HELENA WILSON

LAURA ZIRBES

WHAT children are taught in school is determined by prescribed courses of study. *How they are taught is distinctly a personal problem. How you teach brings success . . . or failure. Now, for the first time, a practical, efficient, personal library is available for the nursery, kindergarten and primary teacher.*

Makes Up-to-Date Methods Available

CHILDCRAFT, prepared by W. F. Quarrie & Company, publishers of THE WORLD BOOK ENCYCLOPEDIA, is the first comprehensive plan for professional self-development prepared especially for the teacher. It brings the latest methods developed by the staff and faculty members of Teachers' Colleges, Columbia University; University of Chicago, University of California, Duke University, George Peabody College, Ohio State University, and many others. Here is the essence of a dozen summer courses—a university of primary education—bringing the knowledge authorities gathered through years of practical experience to assist you in the training of children from the nursery school through the primary grades.

Practical Material for Daily Use

Unit and activity work for use in your classroom without spending money for expensive materials. The finest collection of literature for small children—richly illustrated story-telling material, stories and poems correlating with your activity program, social studies, language, art, character formation. An Art Book, the finest on the market today—a complete index volume to guide teachers in the practical use of the material now available.

Surprisingly Low Priced!

So inexpensive that every teacher can afford CHILDCRAFT, this University of nursery, kindergarten and primary education can be purchased at only a few dollars a month.

Write today to

W. F. QUARRIE & COMPANY

Dept. 640—35 East Wacker Drive, Chicago, Ill. for complete information about the new

CHILDCRAFT

***Reviewed in This Issue—See Page 418**

In writing to advertisers, please mention CHILDHOOD EDUCATION—it helps



Now There Are 3 "Umbrella" Books

SUNG UNDER THE SILVER UMBRELLA

... has just been published. It is a choice anthology of best verses, old and new, for younger children. A preface by Padraic Colum is followed by scores of poems wisely chosen, carefully arranged and delightfully illustrated.

TOLD UNDER THE GREEN UMBRELLA

... first of the "Umbrella" books is a happy collection of old stories for new children prepared especially for the young teacher or mother who is looking for suitable stories to read and tell young children.

TOLD UNDER THE BLUE UMBRELLA

... was written to fill the need of new stories for new children. It is a collection of thirty-eight original stories for the modern child covering a wide range of subjects and including both long and short stories.

Each \$2.00

All three of the *Umbrella* books were edited by the Literature Committee of The Association for Childhood Education and each contains an interesting essay from the Committee explaining the selection and suggesting how to use the book with young children.

Order direct from the publisher:

MACMILLAN COMPANY, 60 FIFTH AVE., NEW YORK, N.Y.

In writing to advertisers, please mention CHILDHOOD EDUCATION—it helps

New McGraw-Hill Books

INFANT BEHAVIOR—Its Genesis and Growth

By ARNOLD GESELL and HELEN THOMPSON, assisted by CATHERINE S. AMATRUDA, Clinic of Child Development, Yale University. 343 pages, \$3.00

This report of a unique investigation of mental development in normative infants in the first year of life deals mainly with findings and genetic interpretations. It delineates the growth of posture, locomotion, prehension, speech, and adaptive and social behavior.

THE CHILD—His Origin, Development and Care

By FLORENCE BROWN SHERBON, University of Kansas. McGraw-Hill *Euthenics Series*. 707 pages, \$3.50

An integrated, logically organized treatment of the origin, growth, development and behavior of the child. Discusses such practical problems as food, clothing, occupation, play, and companionship.

The Development of Learning in Young Children

By LOVISA G. WAGONER, Mills College. McGraw-Hill *Euthenics Series*. 322 pages, \$2.50

Observation of Young Children

By LOVISA C. WAGONER. McGraw-Hill *Euthenics Series*. 297 pages, 8 1/2 x 11, \$2.00

The Ape and the Child

By W. N. KELLOGG, Indiana University, and L. A. KELLOGG. A Whittlesey House Publication. 341 pages, \$3.00

A Dynamic Theory of Personality—Selected Papers

By KURT LEWIN, Cornell University. Translated by D. K. ADAMS and K. E. ZENER, Duke University. McGraw-Hill *Publications in Psychology*. 286 pages, \$3.00

Psychology of Infancy and Early Childhood

By ADA HART ARLITT, University of Cincinnati. McGraw-Hill *Euthenics Series*. Second edition. 382 pages, \$3.00

Outline for Study of Children in School

By EDNA W. BAILEY and ANITA D. LATON, University of California, and ELIZABETH L. BISHOP, Santa Barbara State Teachers College. McGraw-Hill *Euthenics Series*. 248 pages, \$2.25

Send for copies on approval

McGraw-Hill Book Company, Inc.
330 West 42nd Street New York, N.Y.

A Valuable New Book

PARENTS LOOK AT MODERN EDUCATION

By Winifred E. Bain

An important book written to help parents to understand the modern school—so different from the schools they themselves attended. It discusses clearly and authoritatively what present-day education is endeavoring to do and describes the values for children and parents to be derived from nursery school, kindergarten and the various types of elementary school. It explains the part played by the teachers, shows how the modern curricula have been constructed, and how various subjects are taught, and gives the parent the information he needs in order to help his child to succeed. Illustrated. \$2.50

D. APPLETON-CENTURY COMPANY
35 West 32nd Street, New York

SUMMY'S CORNER

*Of special interest to those engaged in
Kindergarten Work*

DAYS OF MAKE-BELIEVE

Music by Catherine Allison Christie
Verses by Rose Strong Hubbell
Dramatizations by Helen Lawrence Mansfield

Price \$2.00

Read what Lucy Wheelock, the Dean of all Kindergartners has to say about this book:

"A book for nursery and kindergarten which meets the needs and conditions of the modern school is most welcome at this time. Students in training schools and teachers young and old will find in DAYS OF MAKE-BELIEVE the book they long have sought. The verses have a fine poetic flavor and are at the same time child-like and simple. The music is rhythmic and pleasing. The dramatic interpretations have grown out of creative work in the Pelican Kindergarten and ensure a demand for the book in many other schools where the creative spirit is fostered."

CLAYTON F. SUMMY CO.

429 S. Wabash Ave.
Chicago, Ill.

9 East 45th St.
New York, N.Y.

In writing to advertisers, please mention CHILDHOOD EDUCATION—it helps

Bibliography on Nursery School Education

A bibliography of all publications dealing with nursery school education has just been compiled by the National Association for Nursery Education. It is complete up to December, 1934. All the entries refer specifically to the work of nursery school education and include publications in the United States and those descriptive of foreign schools which are written in the English language.

Both students and those newly interested in nursery school education will find the bibliography a useful guide and a constant working aid.

Price 75c

Order your copy from

Abigail Elliot
147 Ruggles Street
Boston, Massachusetts

ART FOR TODAY'S CHILD

Art for Today's Child is a thirty-two page-booklet filled with information as modern as its name implies. It contains a compact, practical explanation of how outstanding leaders in the field of art today are teaching it to young children.

Art for Today's Child presents actual case studies which prove the value of art instruction for young children. It explains many, varied, teaching techniques which are being successfully used by prominent art instructors, and contains a selected bibliography of the very latest books on art. Both the teacher in practice and the student in training will find *Art for Today's Child* interesting and helpful.

50c per copy

**ASSOCIATION FOR CHILDHOOD
EDUCATION**

Rm. 360, 1201 Sixteenth St., N.W.
Washington, D.C.

***A New A.C.E. Special Bulletin* CURRICULUM TRENDS**

... has just been published by the Association for Childhood Education. It is a forty page booklet written by Dr. Laura Zirbes of Ohio State University.

Dr. Zirbes analyses curriculum changes as they are being currently reflected in four different sources: Educational magazines, educational yearbooks, recently published professional books and master's and doctor's theses and dissertations. Using these four sources as guides Dr. Zirbes charts the course of the changing curriculum.

Curriculum Trends will give you a wide knowledge of curriculum changes in general. In addition it offers you two detailed plans which you can use as guides in critical, analyzing the particular curriculum with which you work.

To secure a copy of *Curriculum Trends* send 35c together with your name and address to:

THE ASSOCIATION FOR CHILDHOOD EDUCATION
Rm. 365, 1201 Sixteenth St. N.W., Washington, D. C.

In writing to advertisers, please mention CHILDHOOD EDUCATION—it helps

